



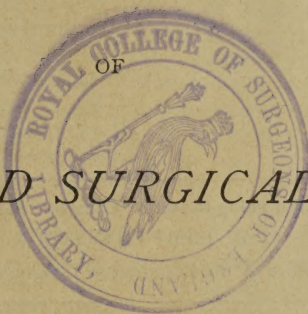


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PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 13, 1877.

ORIGINAL COMMUNICATIONS.

THE LOCALIZATION OF DISEASED ACTION IN THE ŒSOPHAGUS.

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THE anatomical relations of the Œsophagus are more varied than those of any portion of the alimentary canal of similar length. Usually ten inches long, one to one and a half inches of this distance lie within the neck, seven inches within the thorax, and one and a half to two inches below the diaphragm. In a state of rest it is slightly flattened as well as contracted, and its mucous membrane is thrown into longitudinal folds, so that its transverse section exhibits a stellated oval. It is slightly narrowed in passing through the diaphragm, and at the beginning of the thoracic portion. Sappey compares the canal to two elongated cones whose apices join at the last-mentioned constriction.

The Œsophagus describes three curves: one antero-posterior, which answers to the curvature of the vertebral column, and two lateral. The first lateral curve lies a little to the left of the median line, and terminates just below the origin of the left bronchus. The second lateral curve extends from the last-mentioned point to the diaphragm. These curves might with propriety be named the *tracheal* and the *aortic* curves, since the first lies behind the trachea, and the second to the left of the descending aorta. The relations of the *tracheal* portion of the Œsophagus are as follows. The canal lies behind the trachea, with a slight inclination to the left. The pleura is in contact with it on either side. The left subclavian artery lies to the left. It is crossed by the left bronchus, and lies behind the pericardium where that membrane covers the left auricle. The *aortic* portion of the Œsophagus at first lies a little to the right of the aorta, but soon crosses in front and to the left of that vessel. To the right and behind lies the azygos vein. Parallel with it pass the pneumogastric nerves, the left going in front and the right behind. The thoracic duct ascends from right to left posteriorly, while still further in the same direction are

the right intercostal arteries and the vertebral column. Several lymphatic glands lie on either side of the canal as well as behind it.

Instances are on record of hemorrhages into the Œsophagus from the superior vena cava, ascending portion of the aorta, the innominate and right subclavian arteries. The heart has also been wounded by a penetrating foreign body lodged in the Œsophagus. These structures might be added to the normal relations under the name of *indirect* or *possible clinical* relations.

If the Œsophagus possessed much elastic tissue, causing it to maintain the tubular form, the points most likely to be obstructed in disease or from foreign bodies would be those answering to its narrowest parts, namely, at the beginning of the thoracic segment and the cardiac extremity. Writers have generally assigned the upper and lower portions of the canal as the most frequent sites for the lodgment of foreign bodies and the occurrence of disease. The Œsophagus, however, is not tubular in form; its walls when at rest are in contact, and indifferently resist the tendency to stricture or occlusion of the canal under moderate degrees of extrinsic pressure.

The study of the literature of obstruction arising from whatever cause has led me to believe that the Œsophagus is more often obstructed at the cricoid cartilage, and at the region where the left bronchus crosses the Œsophagus, than at any other place. The first of these localities, it is well known, is frequently the point of lodgment of a foreign body or the seat of carcinoma. The fact that the tracheal curve or the point crossed by the left bronchus is a locality of great pathological interest has been in great measure overlooked. Systematic writers omit any mention of the latter structure as a factor in Œsophageal troubles. Thus, Bryant, in his "Practice of Surgery," says that "foreign bodies in the Œsophagus are mostly arrested at its origin behind the cricoid cartilage, or at its lower end, just above the diaphragm, the two narrowest portions of the tube, and anything that can be swallowed may be so impacted." Erichsen states that "if a foreign body go beyond the cricoid cartilage it usually becomes arrested near the termination of the Œsophagus."

From among ten cases of foreign bodies, which I have collected, three were situated behind the cricoid, four just above the left bronchus, *two* near the cardiac end, and one between the cricoid and left bronchus. I will briefly relate these cases, omitting mention of the cricoid variety.

Case I.—Male, aged 30, in taking a drink of water swallowed an artificial front tooth, with gold plate, which measured one and a quarter inches in length and five-eighths of an inch in height. *A probang was passed eleven inches* before touching it. It was removed by silver wire loops secured to the end of the probang. (John Dearden, *Lancet*, 1869, Oct. 16, p. 540.)

Case II.—Male, aged 21. Swallowed a half-crown piece. At the end of a month hemorrhage occurred from the mouth. Sudden death. Stomach distended with coagulated blood, and intestine, as far as descending colon, contained blood, more or less changed. *An ulceration was found after death at the commencement of the thoracic portion of the aorta.*

Case III.—Male, adult. An impacted fish-bone caused death on the tenth day. An ulcer was found on the right side of the œsophagus, perforating the walls *on the level of the fourth dorsal vertebra* and communicating with the aorta. A similar ulceration had excited thickening around and obstruction of the right azygos vein. (Ramskill, *Lancet*, May 13, 1871.)

Case IV.—A child, aged 5 years, swallowed a halfpenny. The coin was pushed violently downwards into the stomach. Death from enteritis. The coin was not found at the autopsy. *The lower third of œsophagus inflamed.* (Jas. Nicholls, St. George's Hosp. Rep., iv., 1869, 219.)

In Case I. the probang must have reached a point just above the left bronchus. An examination made upon a dead body lying upon a table has shown me that the left bronchus is reached by a probang at the distance of ten and a half inches from the teeth. It is in every way probable that in the living subject, in the erect position, a half-inch might be naturally added to this measurement; to say nothing of the individual variations in length of the parts traversed by the probang. In Case II. the term "commencement of the thoracic portion of the aorta," when paraphrased (as I have ventured to do) as follows, "at a point opposite the third dorsal vertebra," will bring the point of obstruction just above the left bronchus,—the latter structure answering at its origin to the fourth dorsal vertebra. The impaction from a body the

size of a half-crown piece would be evident as it approached the bronchus, rather than be detected lying directly behind it. In like manner, in Case III., the phrase "on the level of the fourth dorsal vertebra" brings the point of obstruction to the region of the left bronchus. In Case IV. the coin had most probably been lodged at the bronchus, and the track of inflammation at the lower third of the œsophagus answers to the extent of bruising incurred in the violent passage of the coin and the probang.

The two cases of cardiac obstruction are as follows:

Case I.—Male, 56 years old, in whom a piece of bone had *perforated the right side of the œsophagus a half-inch above the diaphragm*, and wounded the superior vena cava. Death at end of sixth day. Stomach and right pleural cavity filled with coagula. (E. Coëster, *Berl. Klin. Wochenschrift*, Oct. 24, 1870.)

Case II.—Adult male, in whom a fish-bone had *perforated the cardiac end of the œsophagus*, perforating the stomach and diaphragm, and penetrating the posterior wall of the heart, making a jagged wound immediately in the middle of the ventricular septum, and opening the right coronary artery and vein. (*Lancet*, 1860, ii. p. 186.)

It will be at once seen that in both these instances the lesion was occasioned by the sharp, needle-like bone. It is by no means probable that a coin-like, much less a globose, substance would have been so arrested. A striking contrast exists between that portion of the œsophagus above and that below the left bronchus. The upper portion is relatively firmly held between the respiratory passages and the vertebral column, and is subject to no variable deviation from its normal line. But that portion below the bronchus must be relaxed in the marked ascent of the diaphragm accompanying gastric repletion,—a feature somewhat roughly imitated in the subject when the sternum is removed and the diaphragm sags slightly upward. In this position the lower portion of the œsophagus is free from any pressure whatever, and to any other foreign body, save that of the character described in the cases, is not liable to present resistance.

The remaining instance of foreign bodies involves the ascending aorta.

Case I.—Male, 22, after illness of six days, occasioned by the swallowing of a bone, died suddenly from hemorrhage. *The offending*

body had perforated the anterior wall of the œsophagus and the ascending portion of the aorta one and a quarter inches below the origin of the innominate artery. This point, in the language of the recorder, answered to the centre of the middle third of the œsophagus. (Farquharson, Trans. Path. Soc. Lond., 1868, 219.)

In this case it is likely that the obstruction was primarily occasioned by the left bronchus, since the middle third of the œsophagus would nearly correspond to it.*

Nine cases have been collected of cricoid disease, as follows:

Case I.—Male, aged 50. Constriction below base of cricoid. From this to the bronchus the œsophagus was dilated. (N. Ward, Trans. Path. Soc. Lond., i. p. 247.)

Case II.—Female, aged 53. Œsophagus adherent to vertebral column one and a half inches opposite and below the cricoid cartilage. The œsophagus much thickened and contracted. The constriction extending downwards two inches. A cancerous tumor lay between the œsophagus and trachea opposite the stricture. (E. Andrews, *Ibid.*, xii. p. 100.)

Case III.—Male, 44. Upper three inches of œsophagus involved in cancerous tumor ulcerating into left subclavian artery. (Dickinson, *Ibid.*, xii. p. 108.)

Case IV.—Female, 40. Tight stricture at "upper part of œsophagus" opening into trachea. (C. Heath, *Ibid.*, x. p. 130.)

Case V.—Female, 24. Trachea and œsophagus excessively diseased nearly as far as bifurcation of trachea. An oval ulceration existed between the trachea and œsophagus. (Wilkes, *Ibid.*, vi. p. 179.)

Case VI.—Stricture, four inches below the cricoid cartilage, extending to the bifurcation of the trachea. (Knight, *Bost. Med. and Surg. Journal*, N. S., vol. vi. p. 348.)

Case VII.—Female, aged 53. Œsophagus constricted, adherent to vertebra below the cricoid cartilage. Carcinomatous tumor in trachea, growing from posterior wall. Disease cancerous. (Gibbs, *Diseases of Throat*, 2d ed., p. 392.)

Case VIII.—Male, aged 65. Constriction two inches from upper extremity; an ulcer one inch long extending all round the tube. On the right side the ulcer communicated with the cavity between the œsophagus and innominate artery. The right subclavian artery, one and a half inches from origin, showed a circumscribed opening into the above-mentioned cavity. Disease cancerous. (Balding, Trans. Path. Soc. Lond., ix. p. 194.)

Case IX.—Female, aged 35. Cancerous stricture at cricoid, extending upward to behind thyroid cartilage. (Holmes, *Lancet*, 1876, ii. p. 824.)

The following twelve cases of obstruction were located at the point where the left bronchus crosses the œsophagus:

Case I.—Female, adult. Cancerous ulcer situated opposite the bifurcation of trachea. (Wilks, Trans. Path. Soc. Lond., xii. p. 101.)

Case II.—Female, adult. Œsophagus impervious towards lower third. Just above beginning of constriction, free opening into bronchus. (Nunnally, Trans. Path. Soc. Lond., xiii. p. 74.)

Case III.—Male, 51. Œsophagus three inches from upper extremity involved by epithelial cancer, communicating with trachea just above bifurcation. Hemorrhage from first intercostal of right side. (Sydney Jones, *Ibid.*, iv. p. 202.)

Case IV.—Male, 45. Two inches of œsophagus upward from bifurcation of bronchi involved. Communication with trachea just above bifurcation. (Budd, *Ibid.*, x. 145.)

Case V.—Male, 50. Stricture on level of bifurcation extending down two inches. (Shillito, *Ibid.*, xiii. p. 72.)

Case VI.—Boy, 10 years. Œsophagus dilated opposite bifurcation, where longitudinal ulcer one and a half inches long communicated with an enlarged, suppurating bronchial gland filling up the interval between the bronchi. (O. Ward, *Ibid.*, ii. p. 208.)

Case VII.—Stricture about the middle of œsophagus circumscribed, without involvement of any of the neighboring parts. Associated with cancerous polypus near cricoid. (Cooper Forster, *Lancet*, 1863, ii. p. 247.)

Case VIII.—Disease situated in œsophagus at "root of the lung." (Bennett's *Practice of Medicine*, p. 424.)

Case IX.—Male, 44. Cancerous stricture opposite bifurcation of trachea, into which it perforated. (Partridge, *Med. Times and Gaz.*, 1866, p. 338.)

Case X.—Male, 61. Non-malignant ulceration five inches from upper end of œsophagus, just beneath the arch of the aorta, communicating with right bronchus. (Partridge, Trans. Path. Soc. Lond., 1857, p. 191.)

Case XI.—Carcinomatous stricture at middle third of œsophagus. (Richardson, *Lancet*, 1873, ii. p. 596.)

Case XII.—Male, 54. Carcinomatous stricture opposite third or fourth dorsal vertebra, determined by œsophageal auscultation. (Morell Mackenzie, *Lancet*, 1874, i. p. 754.)

It is impossible to estimate the influence exerted by the thoracic narrowing of the œsophagus upon the cases just selected. It is well, however, to bear in mind the relationship.

The following cases, while not in all

* The space between the cricoid region and the left bronchus embraces the beginning of the thoracic portion and is the locality of greatest normal constriction. Yet I have secured but one example of lodgment of a foreign body therein. The diminished calibre of the canal at this point is caused by increased development of muscular fibre, and would not of necessity interfere with distention.

instances directly associated with the left bronchus, were at least limited by this structure above, and it is probable, since from the post-mortem appearances the lesions were of long standing, that the first deposition was at the region of the bronchus, the lower portion of the gullet being involved subsequently. This is, I think, a rational supposition, conceding the tendency of cancerous and other growths to extend in the direction of least resistance.

Case I.—Female, aged 37. Cancerous disease at lower part of middle third of œsophagus, three inches from cardiac end, opening into second right intercostal artery. (Bristowe, Trans. Path. Soc. Lond., 1857, viii. p. 211.)

Case II.—Female, 25. *Œsophagus from bifurcation to one inch above diaphragm* the seat of simple ulceration, with contraction. Ulceration into pericardium where that membrane is reflected from pulmonary vessels to the left auricle. (J. W. Trotter, Trans. Path. Soc. Lond., viii. p. 317.)

Case III.—(Esophagus *impervious towards lower third*, opening into bronchus. (Nunnely, Trans. Path. Soc. Lond., 1862, xiii. p. 74.) (*Mem.*—This case might be included in preceding group.)

Case IV.—Disease *five inches from the stomach, extending downward two inches.* (Page, *Lancet*, 1863, ii. p. 248.)

Case V.—(Esophagus involved *three inches above cardiac orifice*, opening into right side of the descending portion of aorta. (W. H. Flower, *Med.-Chir. Trans.*, xxxvi. p. 353.)

Case VI.—Disease extended from *bifurcation to within two inches of cardiac end.* (Sedgwick, Trans. Path. Soc. Lond., viii. p. 48.)

Case VII.—Male, 62. Cancerous disease *behind left bronchus, opening into descending aorta below*, and involving the lung of the left side. Stomach and duodenum contained clot. (Wilks, *Med. Times and Gaz.*, 1861, vi. p. 36.)

Case VIII.—Cancerous disease involving œsophagus from *bifurcation of trachea to the stomach.* (Rees, *Lancet*, ii. p. 284.)

Case IX.—Cancerous disease beginning at *bifurcation and opening thence into pericardium.* (G. W. W. Firth, *Lancet*, 1859, p. 284.)

Case X.—Male, 18 years. Small perforating ulcer of œsophagus one-quarter of an inch below bifurcation, penetrating into pericardium. (J. Forsyth Meigs, *Am. Journ. Med. Sci.*, 1875, 69, N. S., 87.)

The following eight cases were limited to the œsophagus at its lower portion, viz., *between the left bronchus and cardiac end.* In five of them the cardiac orifice was directly involved.

Case I.—Disease in the form of epithelial cancer involved *cardiac orifice.* (Bennett's Practice, p. 340.)

Case II.—Male, 56. *Scirrhus tumor at cardiac orifice extending up three inches.* (Leared, Trans. Path. Soc. Lond., vii. p. 95.)

Case III.—Male, 70. Mass of cancerous disease extended *upward from cardiac orifice three inches.* (Graham, *Ibid.*, vii. p. 128.)

Case IV.—Male, 49. *Rupture of œsophagus one inch long immediately above the diaphragm.* (J. Griffin, *Lancet*, 1869, ii. p. 336.)

Case V.—Male, 64. Cancerous stricture near *cardiac orifice of the stomach* and opposite to the third dorsal vertebra. No ulceration.

Case VI.—Male, 72. *Ulcer two inches long situated above the cardiac orifice.* (Bennett's Practice, p. 424.)

Case VII.—Male, 54. *Constriction one and a half inches above the cardiac orifice.* (Murchison, Trans. Path. Soc. Lond., xv. p. 183.)

Case VIII.—Patient 80 years of age. Ulcer about *one inch above diaphragm*, measuring three inches in vertical diameter. (*Mem.*—This will bring it to about lower border of left bronchus.) (C. Heath, Trans. Path. Soc. Lond., ix. p. 211.)

In addition to the influence, fixed and probable, which the left bronchus exerts in locating œsophageal disease, a number of incidental lesions are recognized which appear to be limited by this important structure. An analysis of the cases already quoted will have suggested this truth. To illustrate it further, I give several examples under this distinct heading.

Limitation of morbid action and lesion by the left bronchus, viz.:

Case I.—Male, 47. A stricture *opposite the bifurcation of the trachea*, associated with engorgements of the lymphatic glands in the same neighborhood, caused dilatation of the œsophagus both above and below the seat of disease. The stomach was enormously distended, reaching below the umbilicus. (Lewis, *Med. Times and Gaz.*, 1861, p. 332.)

Case II.—A stricture *adherent to the bronchial lymphatic glands* caused dilatation from two inches below rima glottidis to beginning of lower third of œsophagus. (Barker, Trans. Path. Soc. Lond., x. p. 141.)

Case III.—An aneurism of the aorta *below the origin of the great vessels* (*Mem.*, between the fourth and fifth dorsal vertebræ) *ulcerated into walls of œsophagus*, causing a hemorrhage. The blood dissected between the muscular layers of the œsophagus to the cardiac end of the tube, and escaped by a rent through the peritoneum into the abdominal cavity. (T. P. Pick, Trans. Path. Soc. Lond., 1867, p. 477.)

Case IV.—An abdominal aneurism *bursting just above the cœliac axis* caused the blood therefrom to pass up behind the œsophagus. The tube was *compressed for three inches above the cardiac end.* (Bristowe, Trans. Path. Soc. Lond., x. p. 88.)

Case V.—Male, 19; juggler. In swallowing a sword, it penetrated the pericardium. (*Mem.*—It is in every way likely that a temporary resistance encountered at the left bronchus caused the sword to pass by this point violently, with a deflection of its point anteriorly.) (Parks, *Trans. Path. Soc. Lond.*, vol. ii. p. 40.)

Case VI.—Male, 35. Fissure through mucous and muscular coats immediately below the cardiac orifice of the stomach, and extending upward one and a half inches. An adventitious cavity containing gastric ingesta formed between the outer muscular coat and the fibrous investment, which reached upward to the root of the left lung. This collection had in turn communicated by a small orifice with the left pleural sac. (J. J. Charles, *Dublin Quart. Journ.*, vol. l., 1870, p. 319.)

To these cases may be added the congenital union of œsophagus and trachea, which is usually seen at a point just above the bifurcation.

All other sources of extrinsic pressure, such as cancer of the thyroid body, tumors in the posterior mediastinum, pressure from aortic aneurism, or pressure from an enlarged cervical lymphatic, are of course to be excluded; for, as important as these sources of complication are in practice, they have no bearing upon the phase of the discussion now under consideration.

Thus, out of fifty-six cases of intrinsic œsophageal disease, omitting the six cases of limitation of morbid action and lesion, ten were induced by foreign bodies, and forty by disease. The dictum concerning the points of obstruction quoted at the head of the paper will not be, I think, sustained by any impartial reader who has accompanied me thus far. Out of the nine foreign bodies, while three were lodged at the cricoid region, three were just above the left bronchus, and only two near the cardiac end: in both of these, the foreign bodies being sharp bones, the cases presented peculiar features.

In examples of diseased condition, ten were situated at the cricoid, twelve at or near the left bronchus, ten in which the disease while below the left bronchus was very near or involved the latter, and eight only in which the disease was at or near the cardiac end.

It is in every way likely that if all the cases recorded in medical literature were examined, the proportionate number of instances of invasion of the cricoid region would be increased. But the relations existing between the location of morbid action in the neighborhood of the left

bronchus and cardiac end would remain about the same. This supposition is based upon the fact that many of the cricoid cases are classified with pharyngeal disease, while no such source of error is likely to occur in the examination of the remaining portion of the canal.

Mr. Crisp (*Lancet*, 1873, vol. ii. p. 628) reasserts, after an analysis of twenty-one cases recorded in *Trans. Path. Soc. Lond.*, that the constriction was found eleven times in the lower portion, nine in the upper, and but once in the middle.

It is very evident that this writer has assumed a different standard of measurement from mine in arriving at such a widely-different conclusion. While it is convenient to speak of the œsophagus as being thus divided into thirds, it is, I think, more accurate to describe it by the standard of its most important anatomical relations; and I believe that the cricoid cartilage, and the point where the tube is crossed by the left bronchus, are the two most valuable of these.

Anyone can convince himself that writers have been at a loss for fixed points of comparison in describing their cases. Some refer to a strictured point as so many inches below the epiglottis, or as so many inches below the origin of the left subclavian or the root of the lung, or as so many inches above the cardiac end, etc. In not a few cases I have been compelled to translate these terms by measurements from vertebræ in the immediate neighborhood of the assumed points, or by others instituted from above downwards in the axis of the canal. A few of these it may be well to give in this connection:

Length of the œsophagus, ten to eleven inches.

The cricoid cartilage is at the upper orifice of the œsophagus.

The left bronchus crosses the œsophagus obliquely from the fourth to the fifth dorsal vertebra.

The distance from the cricoid cartilage to the bifurcation is from four and a half to five inches.

The distance occupied by the left bronchus in crossing, about an inch.

The distance from the left bronchus to the cardiac orifice, four to five inches.

End of the aortic arch, about the third dorsal vertebra.

From the teeth to the cardiac end of the stomach, fifteen to sixteen inches.

From the teeth to the left bronchus, from ten to ten and a half inches.

From the teeth to the upper edge of the arch of the aorta, nine inches. To the lower edge of the same, ten to ten and a half inches.

The following conclusions are drawn from the foregoing statements :

1. Foreign bodies are liable to be retained at the beginning of the œsophagus behind the cricoid cartilage.

2. Passing this point, they do not, as a rule, reach the cardiac end, or "lower part," but are apt to be lodged *just above* the left bronchus as it crosses the œsophagus.

3. The cricoid region is exceedingly liable to invasion, and if the disease extends thence downward it is often limited by the left bronchus.

4. It is probable that diseased action may occasionally originate at the point of greatest narrowing of the thoracic portion, viz., just below the superior thoracic aperture.

5. The region of the left bronchus is very frequently attacked, the disease commencing either *behind* or *just below* it, and extending thence downward.

6. The cardiac end of the œsophagus is less frequently attacked than either the cricoid or bronchial portions.

7. Resistance at or near the left bronchus can be detected by a probang meeting resistance at eleven inches from the teeth.

8. The dangers attending the forcible use of the probang below the region of the cricoid become more manifest when the anatomical relations of the left bronchus are borne in mind.

A CASE OF STRYCHNIA-POISONING, WITH RECOVERY.

BY H. G. LANDIS, M.D.,

Professor of Obstetrics in Starling Medical College.

MR. Z., æt. 29, suffered during the spring and summer of 1876 from great despondency concerning business affairs. Although a temperate and religious man, he began to tamper with drugs, for which his occupation (pharmacy) afforded fatal facility. His first essay was with ten grains of morphine. Fortunately, violent vomiting set in, and he escaped after a few days' illness. Not encouraged by this trial, he abandoned the idea of suicide for a time, but shortly before the occasion of the present description made an-

other effort to depart from life by the same road, which was also unsuccessful. It is worthy of note in this connection that he had the somewhat common insusceptibility to the narcotic effect of opium, being always kept awake by a moderate dose. Finally, in December, having further impaired his stomach and reason by constant nibbling (so to speak) at narcotics and stimulants, he took several grains of strychnia just before supper. He did not himself know the exact amount, but it was over two grains. At supper he moodily drank a cup of coffee, but ate nothing, and in a few minutes rose and went into an adjoining room to lie down on a lounge. Happening, providentially, to enter the room within five minutes after, I found him in a general convulsion, with some opisthotonos. Sulphuric ether being at hand, I at once began to administer it, the second convulsion coming on in one minute. During the interval he groaned as though in great pain, but was almost completely relaxed. The ether was pushed, and a drachm of bromide of potassium administered with difficulty.

The jaw was partially set, and the handling caused an abortive convulsion. There was at first some reason to suppose that the attack was hysterical; but the regularity and profusion of the symptoms all pointing to strychnine, and the patient, who was conscious throughout, but unable to speak plainly without bringing on spasm of the jaw-muscles, finally admitting that he had taken "something," an emetic of ipecac, mustard, and warm water was given. Swallowing was difficult, but about a half-pint of the emetic was taken. In thirty-five minutes he vomited, at first slightly, then profusely. The ejecta were not tested for strychnia, as it seemed superfluous. At the time of giving the emetic, an enema was administered containing potassæ bromidi ʒiiss , chloral-hydrat. gr. lxxx. In about an hour another, with ʒi of the bromide and ʒiiss of the chloral, was given, and in another hour ʒii of the bromide alone were injected. The first convulsion occurred about 5.30 P.M., the last one at 10 P.M.,—soon after which he began to doze, though he slept very little during the night, in spite of the large doses of bromide which were continued at intervals per orem.

In this case there were six convulsions in all, but only the first two were severe. After these, the ether controlled them perfectly. He could himself foretell their onset for a few moments, by the intense muscular pain to which the incipient spasm gave rise. Hence a few deep inspirations of ether could be taken in time either to prevent or to greatly modify their action. As they declined in severity the interference with speech was less. After the third he was able to speak quite well,

—in fact, became loquacious from the ether. The condition in the first and second convulsions, therefore, in which the jaw was as rigidly set as any other part of the body, was only an apparent exception to the rule that in strychnia-poisoning the jaw is last and least affected, and was due, presumably, to the overwhelming effects of a very large dose. These convulsions were very general, not a muscle escaping, and the attack being so sudden that it was impossible to determine any point of beginning. In the others, pain in the back and limbs was the invariable precursor. Certainly nothing could be more happy than the effects of ether in this case; but I am disposed to give it only a secondary place as a curative agent. It relaxed the system sufficiently to allow of the administration of the remedies; but the bromide as recommended by Prof. H. C. Wood is evidently the true physiological antidote. Recovery in this case was prompt. The patient was unable to void urine for a day or two, necessitating the use of the catheter, and considerable gastric irritability remained for some weeks. With rest and mental relaxation, he improved rapidly, and has remained well up to date, with no return of suicidal mania.

COLUMBUS, OHIO, Sept. 1877.

ERGOT IN HEMORRHOIDS.

BY EDWARD S. LANSING, M.D.

IT is conceded by the curious and most careful investigators and experimenters, and confirmed by the clinical observations of many practising physicians, that ergot produces a very decided effect upon the unstripped or involuntary muscular fibre, exciting it to contraction.

The uterus in the gravid state is the most familiar example in which its power is susceptible of very satisfactory observation.

In atonic hemorrhages, hæmoptysis, hæmaturia, its efficacy is acknowledged. In chronic congestion of the spinal cord and its coverings, its power to cure is vaunted by no less authority than Dr. Brown-Séquard. In the last-mentioned diseases the capillaries are involved.

Considering the pathological condition denominated hemorrhoids to consist in an enlarged condition of the veins (an increased length and diameter as a result of

hæmostatic pressure at some time) which continues after the inducing cause or causes are removed, simply on account of the relaxed and feeble condition of their coats, and conceding the power of ergot upon that greatest aggregation of unstripped muscular fibres in the human system,—the uterus,—also its power upon the capillaries, where the presence of the unstripped fibre has with difficulty been determined, as in hæmaturia and chronic congestion of the spinal cord, it suggested itself that ergot ought to relieve, and with so many favorable factors one could reasonably expect it would cure, many cases of hemorrhoids.

Having an intractable case on hand of twelve years' standing, I tested it.

I used ergotin in suppositories, four grains each, night and morning at first, subsequently at night only.

The first effect of the ergotin was to produce pain for half an hour or more, but after the use of three or four no unpleasant effect attended their use.

The hemorrhage ceased, the congested condition of the parts yielded, the hyperæsthesia was replaced by normal sensation, the hard, cordy condition of the veins passed away, and the slight tumefaction remaining suggested interstitial fibrinous exudation or cellular hyperplasia.

Having treated five cases with the ergot, in four of which the result was more satisfactory than I anticipated, the fifth is still under active treatment.

Having never seen the treatment suggested, and the result in my cases being so happy, I offer it that others may test it, and possibly much relief accrue to a numerous class of great sufferers.

BURLINGTON, N.J.

NOTES OF HOSPITAL PRACTICE.

NOTES OF MEDICAL TREATMENT AT THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

Prepared for the *Medical Times*.

GRAVES' DISEASE.

IN the treatment of this disease the greatest care must be given to the removal of the causes, and in securing rest, good food, change of scene, and entire release from care. The various functions must be attended to, and any local disorder in females removed by suitable treatment.

Digitalis is the most valuable remedy for controlling the functional disturbance of the heart. It may be given freely in doses of from ten to fifteen drops, three or four times a day, and continued for long periods. When anæmia exists, large doses of iron must be administered. Most excellent results have been obtained from the injection of diluted solutions of ergot into the enlarged thyroid gland. The needle may be introduced to the depth of half an inch or an inch, and from six to ten minims of a solution containing ninety-six grains of ergotin to the fluidounce of distilled water injected. Bromide of potassium is valuable in assisting the iron and ergot in controlling the irregular action of the heart and arteries.

ULCER OF THE STOMACH.

Nitrate of silver, in the form of pills, should be given in full doses half an hour before meals. If there be pain, opium, hydrocyanic acid, and chloroform may be administered. An exclusive milk diet is the best. All solid food must be avoided. At the time of hemorrhage, absolute rest must be insisted upon; pieces of cracked ice should be swallowed. Monsel's solution, tannic or gallic acid, should be given internally; morphia may be administered by the mouth, and ergotin hypodermically, and all food given by enemata for the time.

LUMBAGO.

Manipulation must be applied to the lumbar region of the spine, so as to restore mobility. To subdue the painful condition of the muscle, injections of one-eightieth of a grain of atropia and one-eighth of a grain of morphia, well diluted, should be made well into the body of the muscle. Great care must always be had in the administration of morphia and atropia to nursing women, as belladonna is the most powerful anti-galactagogue known, and too large doses of morphia not rarely affect the child through its milk. The local application of blisters, iodine, and croton oil, together with the internal administration of iodide of potassium, often does good.

INCIPIENT PHTHISIS.

Among the most important hygienic measures are good food, healthful out-door exercise which will expand the chest, and an equable climate, such as may be found in the south of California, New Mexico, or the southern and western slopes of Colo-

rado. Sea-voyages, such as a cruise to some tropical ocean, and not sailing about in an inclement climate, as many consider the term to mean, are most plainly beneficial. If these ways of regaining lost health be out of the question, and the patient be compelled to stay at home, inhalation of compressed air may be tried with success. Counter-irritation may be applied over the seat of disease, and cod-liver oil, the syrup of the iodide of iron, arsenic, and the hypophosphites of lime, soda, and iron, administered internally.

IDIOPATHIC EPILEPSY.

As a general rule of treatment in epilepsy, all the existing causes of an attack, such as mental excitement, over-eating, indigestible articles of diet, should be avoided. As concerns medicinal agents, the bromides are of especial value as controlling remedies. The initial dose should be twenty to sixty grains, thrice daily, the dose to be increased in size until either the paroxysms stop or *bromism* is produced.

TETANUS.

Systematic feeding of patients with liquid and strengthening food at short intervals has been employed with very good results. The food must be given at intervals of every two or three hours, and should consist mainly of milk, with a small quantity of alcohol. In severe cases all solid food must be avoided. As for medicines, the patient must be brought well under the influence of the bromide of potassium by an initial dose of two drachms to half an ounce, to be followed by half a drachm to a drachm every three or four hours. To force sleep at night, give at bedtime thirty grains of chloral with some opium. Chloral also may be used, when necessary, in daytime. Nitrite of amyl and chloroform should not be used steadily, but may be employed from time to time to stop violent spasms. If *bromism* be produced, chloral and opium should be relied on, or cannabis indica may be substituted for the bromides. Where there is much cerebral congestion, a blister is put on the nape of the neck.

TUBERCULAR LARYNGITIS.

The local application of pure nitric acid or of strong solutions of nitrate of silver is of great value. For the oedema, astringent solutions, such as the sulphate of zinc, copper, or alum, may be recom-

mended. Gargles and inhalations can be used for the cough. The following formula will be found of value:

R Tinct. benzoini comp., f3ij;

Glycerinæ, f3ss;

Aquæ, q. s. ad f3iv. M.

Sig.—To be used as a gargle.

Inhalations of steam, vapor of hops, or conium, are sometimes successful as palliatives. Counter-irritation may be applied externally to the larynx in the shape of small blisters. To relieve the sense of fulness, lozenges of krameria, hæmatoxylon, or tannic acid are prescribed. In desperate cases tracheotomy must be performed [see *Gleanings*, p. 23], and a metal tube worn, thus putting the much-irritated larynx at rest.

CHRONIC INFLAMMATION OF BOWELS.

Individual symptoms must be borne in mind. Alcohol, green vegetables, fruits, and meats must be refrained from. Butter-milk, beef-juice, milk with lime-water, and light farinaceous foods are the safest articles of diet. The clothing should be amply sufficient, and all excessive exposure avoided. Among medicines the proper mode of treatment is that by nitrate of silver in pill form, one-third of a grain from one to two hours after meals. The treatment must be long persevered in to effect a permanent cure.

CATARRHAL JAUNDICE.

In the treatment of this complaint, early efforts must be directed to the allaying of the irritation of the mucous membrane of the stomach and duodenum. Do not begin by acting on the liver with cholagogues and mineral acids. All exposure must be avoided. A tumblerful of some one of the alkaline mineral waters should be taken twice daily, and nitrate of silver, with small doses of the extract of belladonna, given in pill form. Belladonna prevents spasmodic irritation of the ducts. Where there is much local irritation, blisters may be applied over the gall-duct and gall-bladder. After irritation has subsided, mercurials or mineral acids come into play.

HEART-CLOT IN DIPHTHERIA.

The most important part of the treatment is prophylactic: there is no remedy known which will avert this dreadful accident, but there is little doubt that by judiciously sustaining the tone of cardiac action, and by carefully guarding against all muscular exertion, especially in the way

of sitting up or rising to the feet, a good deal may be done to lessen the danger of its occurrence. Should it become evident that the formation of heart-clot has taken place, the only treatment to be recommended is active stimulation of the tone of the heart. The various remedies which have been advised, with the idea that the solution of the clot might be promoted, are useless. Ammonia is valuable, not in this latter way, but simply as a stimulant to respiration and circulation. Alcoholic stimuli and concentrated nourishment must be given as freely as seems called for by the prostration and the depression of circulation. More reliance is to be placed upon digitalis, freely administered, than upon any other remedy. Absolute avoidance of muscular effort must be insisted upon.

SACCHARINE DIABETES.

The diet must be modified by the exclusion of all sugary and starchy elements of food. The most valuable drug is opium, used in large doses for a long time. Ten grains may be given daily without producing the slightest drowsiness. Under this treatment the amount of urine passed daily will greatly diminish, and the proportion of sugar gradually grow less.

CARCINOMA OF THE LIVER AND OMENTUM.

Treatment must generally be limited to the relief of pain and the use of a well-selected diet. In some cases of non-cancerous internal growths, arsenic given in very large doses for long periods of time may do good. Pain must be checked by opiates, and the strength maintained by large doses of iron and the bitter tonics.

CHRONIC ARTICULAR RHEUMATISM.

The most successful mode of treatment has been by manipulation of the ankylosed joints, and counter-irritation applied to the nerve-trunk higher up the leg. The continued current with the positive pole placed over the point of tenderness, and the negative pole higher up the nerve, may also be employed. When the foot is affected, a shoe should be constructed which shall take the strain off the painful joint and throw the weight of the body on the outside of the foot (this for rheumatism of the joints of the foot, of course). Where there is a decided rheumatic diathesis, the persistent use of the following prescription is followed by advantageous effects:

R Pulv. guaiaci resin., gr. x;
 Potass. iodidi, gr. x;
 Tinct. colchici semin., f3ss;
 Aq. cinnamomi,
 Syrupi, aa q. s. ad f3i. M.

Sig.—A dessertspoonful to a tablespoonful thrice daily.

ADENITIS

Is treated by continued injections of dilute ergotin in the substance of the inflamed gland.

CYSTIC TUMOR OF THE LIVER.

The only mode of treatment is by repeated tapping of the cyst or cysts, and the injection of iodine into the cavity. In evacuating hydatid cysts, some have recommended causing adhesions between the cyst and the abdominal walls by escharotics and then making a free opening into the sac and maintaining it until the cavity is altogether obliterated. This method is often followed by fatal results. The safest method is that by the trocar and canula and aspiration. This operation affords but very slight danger of peritonitis.

ACUTE GASTRO-HEPATIC CATARRH.

In these cases, if a malarial nature be suspected, it is well to begin with full doses of quinia. If, however, the gastro-hepatic symptoms are prominent, the quinine treatment should be postponed for twenty-four hours, and from five to ten grains of blue mass given, followed by a saline. Then, when the liver and stomach have been well acted upon, quinia should be given by the rectum, so as to avoid gastric irritation. Four suppositories, of five grains each, should be given at intervals of from two to three hours. The diet should be restricted, and febrifuges and subacids given, and the skin sponged with cold water if the fever be severe.

TYPHOID FEVER.

Beginning with the second week of the disease, when the abdominal symptoms have fully set in, one-quarter of a grain of nitrate of silver, and from one-sixth to one-half of a grain of the watery extract of opium, with one-twelfth of a grain of belladonna, are exhibited in pill form, three times a day, after meals. Very little stimulus is used. Milk and beef-tea are the only articles proper of food allowed. Quinia is given with other tonics. Fever is reduced by frequent spongings of the entire body with cool water. When the high fever resists sponging, cool baths are employed.

TRANSLATIONS.

CONDITION OF THE BLOOD AND MARROW IN PERNICIOUS ANÆMIA.—Dr. Osler, of McGill University, in a communication to the *Centralblatt f. Med.*, 1877, p. 498, gives the following appearances as observed by him in the above-mentioned disease. The blood examined before death was thin and watery, and showed no increase of white blood-corpuscles. The red corpuscles were pale, flat, and irregular in form. The microcytes so often observed in this affection were very numerous, often ten to twelve in a single field. Nucleated red bodies were not found, nor were those large colorless elements, resembling marrow-cells, which Litten describes, seen.

The marrow of all the bones examined—sternum, ribs, vertebræ, fibula, radius—was dark violet red, and, with the exception of that of the fibula, contained no fat. There were found the usual marrow-cells, both the large coarsely granular and the small lymphoid varieties, as well as red blood-corpuscles. There were also nucleated red bodies, resembling in every respect those described by the author in a former number of the *Centralblatt* (1877, p. 258). These were particularly numerous in the sternum, least so in the vertebral medulla: they were considerably larger than ordinary red corpuscles, and of an equally dark color. Most of them had a single nucleus, but occasionally two, three, or even four nuclei were observed. The nucleus lay, as a rule, excentrically, often in fact protruding half-way out of the cell. In these instances they appeared uncolored. x.

THE CAUSE OF SLEEP.—Dr. Preyer, of Jena (*Journ. des Sci. Méd.*, 1877, p. 374), the reporter upon this subject at the recent International Medical Congress at Geneva, formulates certain conclusions on this subject, which are essentially as follows. Normal sleep is a condition of the organism altogether different from somnolence, coma, asphyxia, or narcosis, with which it is often confounded. The principal difference as to cause consists in the fact that fatigue (of the organs of sense, of the muscles, or of the brain) precedes natural sleep. No psychical phenomenon of any kind can manifest itself if the brain has not a certain quantity of oxygen at its disposal, which is brought to it by the blood. If the ganglionic cells lack oxygen, the cerebral actions are suspended as in sleep.

Since the brain of a sleeping animal receives as much blood and as much oxygen as in the waking condition, it must be admitted that the oxygen of the blood no longer needed for psychical acts is employed otherwise than in the waking condition. Certain substances are formed during labor which exist only in a minimum quantity during the condition of repose. Such are lactic acid and creatine. These accumulate in the organs, and, as they are very oxidizable, they consume the oxygen required by the brain and muscles during action. The commencement of this accumulation marks fatigue; its end, awakening. In fact, lactic acid introduced into the system causes fatigue and sleep, if all excitation is avoided. It must be admitted, however, that lactic acid introduced into the organism occasionally fails to produce the effect indicated. x.

USE OF ANÆSTHETICS DURING NATURAL LABOR.—This question was discussed at the recent International Medical Congress at Geneva (*Journ. des Sci. Méd.*, 1877, p. 368). The reporter, Dr. Piachaud, of Geneva, advises the use of anæsthetics in natural labor in a general way. He prefers chloroform given after Snow's method,—that is, in small amounts at the beginning of each pain, suspending it in the intervals. Complete insensibility is not to be produced,—only sufficient to mitigate the pain. Usually chloroform should be given only during the stage of expulsion. In cases when the patient is very nervous or extremely agitated, it is advisable not to wait for complete dilatation of the os before employing anæsthetics. Experience has shown that while anæsthetics do not suspend the muscular action of the abdominal and uterine muscles, they cause the perineum to relax. Their employment is followed by no evil effects to mother or child. The use of anæsthetics, by diminishing suffering, frequently prevents nervous crises, and, in addition, hastens the rapidity of recovery. Anæsthetics are particularly useful for the purpose of calming the extreme agitation and cerebral excitation frequently produced by labor in very nervous women. Their employment is indicated during natural labor when the progress of the process is retarded or suspended by pain caused by anterior affections or those supervening during labor, and in cases of irregular and partial contractions occasioning suffering without

aiding the progress of labor. In natural labor chloroform should never be used without the assent of the patient and family. x.

ACUTE MYELITIS.—C. Lauenstein (*Deutsches Archiv für Klin. Med.*, xix. p. 424) gives the case of a man 45 years of age, who having caught cold was attacked, after a prodromal stage continuing for ten days (pains in the back and stiffness in the limbs), with high fever and sweating, followed by complete paralysis, motor and sensory, of both upper and lower extremities, together with retention of urine. During the first day the reflex movements were obliterated. After the second day they came back,—at first feebly. The limbs, at first numb, were later stiff, so that they retained their position when moved, and displayed fibrillar twitchings of the muscles. Respiratory disturbance was followed by death on the third day. Post-mortem examination showed the cervical medulla softened from the beginning of the third cervical nerve down, and, on section, of an even pale red. The veins of the pia mater were filled; in fact, in the posterior part of the cervical medulla itself they were also injected. The dorsal and lumbar medulla was found macroscopically and microscopically intact. Neither hemorrhages nor nucleated cells were found in the altered cervical medulla; very marked enlargement of the axis-cylinders was, however, observed; the medullary sheath was frequently wanting in the latter. These changes, as well as maceration of the neuroglia fibres and enlargement of the stellar cells, were found principally in the centre of both lateral columns of the cervical medulla, especially towards the periphery. Among the swollen axis-cylinders uncolored spaces of various size were observed. The rest of the medulla was substantially good. The author says that the occurrence of paralysis of reflex movements only during the earlier hours of the disease is interesting, and suggests the similar phenomena observed just after division of the cord in animals. x.

TREATMENT OF OZENA.—At the recent International Medical Congress at Geneva the reporter upon this question was Dr. Ronge, of Lausanne. His conclusions were as follows:

1. Ozena, a special fetidity of the air expired by the nose, results from suppuration of the nasal fossæ or their annexes,

which are,—the frontal sinus, the ethmoid cells, the sphenoidal sinus, the maxillary sinus.

2. The point of departure for this supuration always appears to be an alteration of the bones of the nasal fossæ or their annexes.

3. The degree of fetidity of the nasal breath is determined by the extent of the osseous lesion: the greater this is, the more severe the ozæna.

4. Apart from the osseous lesion, the stagnation of pus in the sinus, from which it can only escape by drops, contributes to the production of ozæna.

5. When the cause of the ozæna is not found in an alteration of the walls of the nasal cavity, the sinus and the cells of the ethmoid must be examined.

6. The local treatment of ozæna is as follows:

(a) Cleansing of the nasal fossæ by means of douches and frequently-repeated irrigation. The liquid employed varies according to the indications.

(b) Insufflation of astringent, caustic, or disinfecting powders.

(c) Cauterization with solid, liquid, or pulverulent chemical caustics. Employment of the galvano-cautery.

(d) Scraping the ulcerations, extraction of sequestra, drainage of the sinus. To fulfil this indication it is necessary to detach the nose by the sub-labial process, which permits direct exploration of the nasal fossæ, extirpation of the necrosed parts, and opening the sinus. This procedure leaves no apparent cicatrix and no deformity. x.

FUNCTIONS OF THE SPLEEN.—At the same meeting Dr. Schiff, the well-known physiologist, made a report on *the functions of the spleen*. His conclusions were as follows:

1. Extirpation of the spleen has no lasting influence upon the absolute or relative quantity of the white or red globules of the blood.

2. For a short period after the operation a considerable augmentation of white globules, with or without diminution of red globules, is observed. These alterations do not depend on the absence of the spleen, but only on the operative procedures necessary to the ablation of the organ, and these phenomena remain very much the same if the preparatory manœuvres are not followed by ablation of the spleen.

3. After ablation of the spleen, swellings of the lymphatic glands rarely take place, nor do enlargements of other glands. The so-called supplementary spleens are not found, even when the animals are allowed to live for more than a year and a half after the operation, and even when this has been performed within a few weeks after birth.

4. Swelling of the mesenteric glands, which is occasionally observed in animals deprived of the spleen, appears to be due to a peritonitis, partial, but prolonged, which sometimes follows the operation.

5. The spleen appears to augment in volume from the fourth to the seventh hour of a sufficient stomachal digestion.

6. The spleen during digestion, or rather during the stomachal absorption, prepares the ferment which, entering with the blood the tissue of the pancreas, transforms in this gland a special substance (probably albuminoid) into *pancreatopepsin*, or trypsin,—that is to say, a substance apt to digest albuminoid bodies.

7. After the extirpation of the spleen, the pancreatic juice loses its digestive influence on albuminoid bodies, while preserving its other digestive properties. The duodenal digestion of the albuminoids is no longer distinguished by its energy and rapidity: it is then feeble, as in other portions of the small intestine.

8. After ablation of the spleen, the substance destined to form pancreatopepsin accumulates for the most part in the pancreas, and may perhaps be transformed into pancreatopepsin under the chemical influences which accompany the commencement of putrefaction after death.

9. After the destruction of its nerves the spleen remains flaccid. It no longer enlarges, and it becomes atrophic, as in general do erectile tissues whose vascular nerves are paralyzed.—*Journal des Sci. Méd. de Louvain*, 1877, pp. 365, 375. x.

ASSERTED DEATH FROM POKE-ROOT.—Dr. W. S. Battles reports (*Ohio Medical Recorder*, August) the case of an old lady who took a pint of decoction made from an ounce and a half of fresh poke-root, and was found dead in her bed next morning. No autopsy was made, and it seems more than doubtful whether death was caused, as asserted, by the drug.

DR. HUGH ALGERNON WEDDELL, famous for his researches upon the cinchona family of plants, died July 22, at Poitiers, France, in the fifty-ninth year of his age.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 13, 1877.

EDITORIAL.

MODERN HOMŒOPATHY.

DRS. T. F. Allen and Samuel Swan, both of the city out of which wise men sailed in a tub, are engaged in a duel *à l'outrance* concerning the relative values of the "millionth fluxion potency" and the "thousandth centesimal potency." In the *Hahnemannian Monthly* for September we are informed by Dr. Swan that the "square root of a fluxion potency will represent the highest possible Hahnemannian potency,"—which assertion shows the doctor to be a great and good man. We are dumb with wonder at the intellect which controls the power of these square roots,—a power which can root out all the ills of human flesh. We tremble at the might shut up in even a "fifth centesimal Hahnemannian potency," when "by spectroscopic test the distinguishing bar has disappeared," and the freed spirit of the drug, no longer devitalized as substance, is a nascent force. "The most useful potencies are those so high that all physical and chemical qualities are eliminated." It is with such pure sublimated force that the demons of disease are to be driven out of the human system. Think of Sepia, its blessed spirit of healing so imprisoned in its worse than carnal body that it is powerless—bound in atoms of matter as by the hand of a giant—until the Aladdin lamp of potentization liberates it for its mission of recuperation and joy.

Dr. Swan has pushed forward the discoveries of pure homœopathy until he ranks as a second prophet, approaching even unto him who has gone before, the immortal Hahnemann. He has proven "that morbid products will cure the diseases that pro-

duced them, if given in high attenuations and to other persons than those from whom they were procured." Listen, O sons and daughters of suffering; endure not till the morning. Hie away to the spit-cups of Blockley and the cancer-rags of Bellevue! There shall you find healing, and, rising as from the fountains of eternal youth, shall call *him* blessed among men for evermore.

BICARBONATE OF SODIUM IN BURNS.

SOME months since, a paragraph went the rounds of the daily press, asserting strongly the value of the bicarbonate of sodium in burns. Not long after, in one of the University laboratories in this city, an assistant of the editor of this journal burnt the inside of the last phalanx of the thumb severely whilst bending glass tubing. The saturated solution of the bicarbonate of sodium, used in the cardiometer, was at once applied: in five minutes the pain was gone, and with it all soreness, so that the part, although blistered, was freely used and pressed on in bending tubing, screwing up and unscrewing apparatus, etc. In the last number of the *Louisville Medical News*, Dr. Coleman Rogers reports a case of a burn of the second degree, involving two-thirds of the face, both ears, and extending over the whole back of the neck to down between the shoulders, in which the pain was "promptly and permanently" relieved by applications of the soda. Washing-soda is so easily obtained, and the relief we saw was so quick and complete, that we trust the profession will at once try the new asserted remedy.

ADULTERATED LIQUORS.

THE quantity of fancy liquors, from brandy to champagne, drunk by any man may be known to him, but the quality must always remain an "unknown quantity." A peep into the vista is given in a

paper by Mr. Henry G. Debrunner in the October number of the *Journal of Pharmacy*. A sample of a genuine French brandy was carefully examined, and found to contain the violent narcotic poison nitro-benzole in large quantity. For the benefit of those who prefer knowing what they drink, or are desirous of saving a penny, Mr. Debrunner gives a formula for preparing this choice liquor. Take of common alcohol and of water, each, two quarts; mix, and add of nitro-benzole half a fluidounce. Agitate. Picric acid or trinitrophenol having been previously detected in beer, nitro-glycerin will be next in order.

A FEW weeks ago we called attention to the so-called "Maxwell case," and to the fact that in the discussion which was going on there was an evident endeavor to delude the general public into the belief that the issue was one between the regular profession and the homœopaths.

Subsequent developments have simply confirmed us in our original opinion, that the only point of interest in the case is that the managers of a public institution should have been so negligent as to have permitted an insane or imbecile person who had shown marked suicidal tendencies, to occupy, unguarded, a room in the fourth story of their building. It was not proven that Dr. Mullen had refused to sign the certificate of insanity because the other names upon it were those of homœopaths, but it was shown, on the contrary, that his failure to do so was from lack of opportunity to make a personal examination of the patient, as is required by the laws of the State and of the Board of Guardians. Some interesting facts were brought to light concerning the attention which the patients at this "Home" receive from the managers and the visiting homœopaths, and the ratio which seems to exist between that attention, the pecuniary circumstances of the patient, and the amount of trouble

which he gives; but this aspect of the affair is at once complicated and discouraging. The committee of the Board of Guardians very properly sustained its own excellent rule requiring one of the doctors examining cases for admission to the insane asylum to be an officer of the Board, and also exculpated Dr. Mullen from all blame in the matter. We wonder if an investigation into the management of the "Home for Aged Colored Persons" and the conduct of its officers would have as satisfactory a result.

CORRESPONDENCE.

NEW YORK, September 28, 1877.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES:

DEAR SIR:—The first of our societies to resume operations after the summer vacation this year has been the Academy of Medicine, which held its first meeting on the 20th of September. On this occasion about two hundred and fifty valuable books, from the library of the late Dr. J. H. Johnson, were presented to the Academy by his family, and among them were some very interesting manuscript volumes, written by Dr. John Bard, the father of Samuel Bard, the founder of what is now the College of Physicians and Surgeons, and the great-grandfather of Dr. Johnson. The paper of the evening was by Dr. Beverly Robinson, on "*The Mechanism and Treatment of the Pulmonary Complications of Acute Cardiac Affections*." He first spoke of endocarditis, and described the phenomena accompanying it, and the pathological changes resulting in the cardiac valves, which at first contract badly, while later there is rigidity and narrowness of the orifices. In consequence, the respiratory function is more or less interfered with, the amount of interference varying in different cases. He was disposed to think that Flint under-estimated dyspnœa as an element of endocarditis, and agreed rather with Valleix, who found it of frequent occurrence. The pulmonary complication might be dependent merely on congestion, or might amount to extensive inflammation. Again, dyspnœa might sometimes be due to nervous irritation, and was also, no doubt, sometimes caused by the formation of coagula in the right heart. In the latter case the respiration is noisy and labored, and on percussion there is found to be increased vesicular resonance, the pulmonary vesicles being distended to their utmost capacity, and the respiration in consequence almost emphysematous in character. There is marked congestion and often œdema of the pulmonary

tissue. Sometimes, it had been shown, coagula formed in the left heart before the right; but this was unusual. Dr. Robinson next spoke of ulcerative and diphtheritic endocarditis, so apt to result in minute embolisms, and then of pneumonia, which frequently follows endocarditis, but sometimes makes its appearance simultaneously with the latter. Some authors would then regard them both as due to the same morbid cause, such as rheumatism or a puerperal dyscrasia; but he was not willing to subscribe to this opinion. Pneumonia, he acknowledged, however, was more apt to follow endocarditis in adynamic conditions of the system; and there was now a well-recognized form of the disease known as embolic pneumonia.

The author of the paper then went on to mention dyspnoea in pericarditis as a symptom of great importance, and claimed it as pathognomonic of this affection in children when there was nothing present in the lungs to account for the difficulty of breathing. After alluding to the causes of the dyspnoea, he proceeded to show why this symptom varied so much in different individuals. As a rule, patients who are weak and anæmic suffer much less from dyspnoea than those who have been previously in robust health; and, again, if the pericarditis is very severe in its onset and runs its course very rapidly, the dyspnoea is apt to be much greater than if the disease is not of so active a character. Then sometimes the diaphragm and other muscles of respiration are affected, and in that case, of course, a considerable amount of dyspnoea is produced.

In consequence of the length of his paper, Dr. Robinson omitted a portion of it, and occupied the remainder of his time with some remarks on treatment; first, however, giving a sketch of an interesting case of aneurism of the heart which recently occurred in his service at Charity Hospital, and in which the patient died from its rupture.

Pericarditis, endocarditis, and myocarditis, he went on to say, give rise to complications which are often of either a congestive or inflammatory character, and therefore local antiphlogistic treatment is of considerable service; but the principal reliance is to be placed on general remedies. Among those most used he mentioned quinine, the alkalies, atropia, and aconite. Quinine, however, at the present day was regarded as the *sine qua non*, and he digressed for a few moments to discuss some of its properties and express his dissent from the views commonly held in regard to it in this country to-day. The German authorities had been for some years lauding it as the great tonic and apyretic, and claiming that the larger the dose the better the effect,—which views seem to have been adopted by the mass of the profession in the United States. In France, however (and the English were more apt to adopt French than German opinions),

quinine was acknowledged as a prompt apyretic when given in full doses, but was not regarded as a tonic, except in very small quantities, and even then it was much less efficient than the cinchona bark itself, and than iron, strychnia, and many other agents. Digitalis was the remedy which he would substitute for quinine in a large majority of instances; and he mentioned two cases at Charity Hospital which illustrated its beneficial effects. One was a case of capillary bronchitis, and one of double pneumonia, and both were under large doses of quinine when they came under his care. Though the temperature was not high, the dyspnoea and general distress were most urgent, and one of the patients seemed to be actually moribund. The quinine was withdrawn, and digitalis given in full doses instead, and the relief was almost instantaneous, while great improvement afterwards followed. Not only was digitalis a direct tonic to the heart, but it had the effect of gradually diminishing the pulse, respiration, and temperature, while its diuretic effect was also very valuable in carrying off the waste products of the system. In ordinary cases it was sufficient to give from five to ten minims of the tincture three or four times a day; but if the cardiac symptoms were urgent, he recommended drachm doses every four hours until relief was afforded. Dr. Robinson criticised the opinion, now apparently so prevalent, that in many febrile diseases a high temperature is the only source of anxiety, and that if that can only be brought down, all will be well. He claimed that high temperature of itself need cause no alarm unless it was accompanied by unfavorable symptoms, and that many cases of typhoid fever and scarlatina did perfectly well all through the attack, notwithstanding the fact that the temperature was very high. The sources and mechanism of fevers, he said, were not yet half understood; and he quoted a passage from Wunderlich to show how many elements have to be taken into consideration in appreciating this subject. He then mentioned a case of catarrhal phthisis in which the patient, a young woman, suffered from frequent fainting-spells when she took quinine. He increased the dose, under the idea that this would counteract the weakness which gave rise to them; but they only increased in frequency. When the quinine was withdrawn entirely, however, the fainting-spells ceased, and the patient was much improved, notwithstanding the fact that the temperature went up considerably. It was his custom frequently to administer Huxham's tincture, or small doses of strychnia, in connection with quinine. The following were some of the conclusions of Dr. Robinson at the close of his paper:

(1.) Pulmonary affections are frequently the immediate results of acute cardiac disease.

(2.) These complications are not so much

due to inflammatory as to mechanical obstruction.

(3.) To combat them successfully we must use some remedy (or remedies) which directly strengthens the heart's action, and gradually diminishes the pulse, respiration, and temperature.

(4.) Quinine does not fulfil these indications.

(5.) Digitalis does.

(6.) High temperature alone is not a cause for uneasiness in febrile affections.

Dr. Robinson having mentioned Professor Loomis as one of the principal advocates of large doses of quinine in this country, Dr. A. A. Smith remarked that in these days of quinine hobby he thought it only right that justice should be done those accused of riding this hobby, and that he feared that Dr. Robinson's paper would leave a wrong impression in regard to Dr. Loomis's opinions and practice. He said he had served under the latter at Bellevue Hospital, and that, while it was his custom to give quinine very freely in acute pulmonary diseases accompanied by high temperature, in the *secondary* affections of the lungs he relied almost exclusively on large doses of digitalis, together with alcoholic stimulus. He had frequently given, under his direction, tablespoonful doses of the infusion of digitalis every two hours.

Dr. Robinson explained that his criticism of Dr. Loomis had been based entirely on the published writings of that authority, and that he was glad to say that he entirely agreed with him as to the action of quinine on cell-proliferation in pneumonia and catarrhal phthisis.

Before the adjournment of the Academy, Dr. F. A. Burnall presented two specimens of urine from a patient suffering from *chyluria*, an affection which, though not uncommon in certain parts of Europe and South America, is very rare in this climate. He also read the history of the case, and made some remarks on the obscure character of the affection and the results of his examinations of the urine at different periods. The patient was a lady fifty-five years of age, a native of the Southern States, and first noticed the milky appearance of her urine about nineteen years ago, soon after giving birth to her fifth child. Since that period she has continued to pass chylous urine from time to time, and always feels considerably debilitated when this is the case. She has frequently experienced considerable pain in the right lumbar region, but never any in the left.

Of the multiplication of medical societies there seems to be no end. The first annual meeting of the "American Academy of Medicine" was held in this city on the 11th and 12th of September. The objects of this institution, which was organized September 6, 1876, in Philadelphia, are declared in its constitution to be "the advancement of medical

science, the elevation of the profession, the relief of human suffering, and the prevention of disease;" while the Fellows of the Academy must be gentlemen who have received the degrees of Master of Arts and Doctor of Medicine, and who have had at least three years' experience in the practice of medicine in one or more of its recognized departments. The above objects are certainly very desirable; but how far this newly-organized body will be successful in carrying them out seems as yet somewhat problematical. The meeting of the American Academy of Medicine excited but a very small amount of interest among the profession in this city, and scarcely any of our prominent men took the trouble to attend it. Professor Traill Green, of Easton, Pennsylvania, the president of the Academy for the last year, made a very admirable address at the opening of the session, in the course of which he spoke eloquently of the scholastic attainments of Drs. Shippen and Morgan, of Philadelphia, the Bards, of New York, and the Warrens, of Boston, the founders of the first medical schools in their respective cities, and made a strong plea for a higher culture among the members of the medical profession at the present day. Afterwards the Hon. Lewis H. Steiner, M.D., of Frederick, Maryland, read a forcible paper on the advantages of the study of languages, both ancient and modern, to the student of medicine, in which he showed that the average practitioner of the present day in this country is not so well furnished with the elements of a liberal education as the one of fifty years ago. Certainly, if this society can succeed in raising the standard of preliminary education required for admission to our medical schools, it is deserving of the most earnest support of the profession; but, alas! there seems to be little prospect that a consummation so devoutly to be wished will be attained at any very early date. The names of the officers of the Academy elected for the ensuing year are as follows: President, Dr. Frank N. Hamilton, of New York; Vice-Presidents, Drs. Lewis H. Steiner, of Frederick, Maryland, Lee, of Philadelphia, Wickes, of Orange, New Jersey, and Henry G. Piffard, of New York; Secretary, Dr. R. L. Sibbet, of Carlisle, Pennsylvania; and Treasurer, Dr. Ed. H. M. Sell, of New York.

The first annual commencement of the Training School for Nurses at the Charity Hospital, Blackwell's Island, took place recently, and was a very pleasant affair. It was held in the large hall of the west wing of the hospital, which was tastefully decorated for the occasion with evergreens, flowers, and flags, and there was a large attendance of invited guests (among them Mayor Ely and Ex-Mayor Wickham), who came over to the island on the steamboat belonging to the Commissioners of Charities and Correction. The pupils of the school presented a very prepossessing appearance in their neat caps and

aprons, and certainly would have offered a very marked contrast to any body of nurses that could have been gathered from any of our hospitals ten years ago. Ex-Mayor Wickham presided, and gave a short history of the organization and subsequent career of the school. For several years, he said, the commissioners and himself had been awake to the abuses of untrained nurses in the hospital, and the desirability of founding such an institution as this; but it was not till August, 1875, that they were able to perfect and carry out the project. At that time twenty applications were received from young ladies, of whom nine were accepted; and it was with this number that operations had been commenced. Since then the school had gone on increasing, until it had now reached the number to which it is limited, forty pupils. The influence of these lady nurses had made a complete change in the *régime* of the hospital; severe punishments were no longer necessary, and there had been a marked decrease in the death-rate. A novel feature of the exercises was the reading of essays by several of the graduates, on such subjects as the following: "The Nursing of Children," "The Nursing of the Eye," and "The Duties of a Nurse." There was also read a very amusing composition on "Blackwell's Island," and a valedictory address by one of the young ladies selected by her companions. There were sixteen graduates, and three of them received prizes offered by Dr. Eastabrook, chief of staff, for passing the best examinations. There is only one objection that we can see to having such a class of nurses about a hospital, and that is that, some of the young women being very attractive, the members of the house-staff may be tempted to indulge in flirtations with them sometimes, and thus perhaps occasionally neglect their patients; but, even although this is the case, good may, no doubt, result therefrom to both the young men and the nurses. At least one match which was gotten up in this way has come to our knowledge; and it is certainly very nice for a youthful physician setting out in practice to have such a helpmate that, in case his magnificent anticipations of fortune and renown are not realized quite as soon as he expected, she may be able to turn to account her knowledge and experience in the care of the sick in such a manner as to assist in "keeping the pot boiling" until the practice has sufficiently increased to enable him to dispense with her professional services.

Some eighteen cases of yellow fever, the most of them coming from Havana, have lately been reported from Quarantine, and no less than half of them have proved fatal. There has also been one death from the disease in the city. The patient was a gentleman who came by rail from Florida, and was apparently in excellent health for several days after his arrival here. When he be-

came ill he was taken to the New York Hospital, where he died in a very short time. More recently another case of the fever, which had been admitted to the Roosevelt Hospital, was ordered by the Board of Health to be transferred to Quarantine, the authorities holding that it was better that the patient should undergo the risk of removal than that his being allowed to remain should occasion needless alarm in the city. It seems, however, that he was in a very low condition at the time of his removal, and only survived for a few hours after reaching the hospital on Dix Island to which he was taken; and, as yellow fever is not regarded as a contagious disease, the friends of the deceased are naturally inclined to criticise the action of the Health Department in the matter very severely. They claim that he would have had a chance at least to recover if he had been allowed to remain at the Roosevelt, and that this was entirely destroyed by his removal, so that the authorities are in a measure responsible for his death.

In the large fire which occurred in this city early in September, when Hale's piano-factory and other buildings were destroyed, a member of the Fire Department had his leg broken and was pretty badly bruised by a portion of a wall falling upon him; but when, after considerable difficulty, he was taken from underneath the débris, he seemed to regard it as quite a trifling matter, exclaiming, "Oh, this is nothing!" On his way to Bellevue Hospital he explained to the ambulance-surgeon that at the burning of Barnum's Museum, on Broadway, near Prince Street, he had had both his arms and both his legs broken, so that he regarded himself as having got off with very little damage on this occasion.

On the 19th of September, Dr. Alexander B. Mott successfully ligated the *common iliac artery* in a patient, at Bellevue, suffering from femoral aneurism noted very high up.

Dr. Leroy M. Yale, Lecturer Adjunct upon Orthopædic Surgery at Bellevue Hospital Medical College, has been appointed attending surgeon to Bellevue Hospital, in the place of Dr. A. B. Crosby, deceased.

During September the usual preliminary autumnal courses have been given at all the medical schools, and in the first week of October the regular winter sessions will commence. The large number of New York medical men who have been abroad during the summer have nearly all returned by this time; but Dr. Sims, it is reported, will remain permanently in Paris. His oldest son, Dr. Harry L. Sims, has recently removed to San Francisco, whither he was accompanied in the early part of the summer by his father, and where he expects to practise his profession for the future.

The residuary legatees of the estate of the late John C. Green, of this city, have given the

sum of \$50,000 to the Presbyterian Hospital here, the interest of which only is to be used for the benevolent purposes of the institution. They have also made a similar donation to the S. R. Smith Infirmary, at Edgewater, Staten Island, a charity for the medical and surgical relief of the poor of the island.

P. BRYNBERG PORTER.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 10, 1877.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Cystic suppurating kidneys. By Dr. C. B. NANCREDE; notes by Dr. FAIRFAX IRWIN.

THIS man, aged 75, admitted August 6, 1877, has experienced a difficulty in passing his water for the last nine months. He says it comes away in very small quantities at a time, and with much straining. Says he has not had a stool for nine days. There seems great pain on pressure over the abdominal region, which is swollen and tumid. Face is flushed; pulse full and rigid, 65 per minute; the artery has an atheromatous feel; heart-sounds are weak; first sound more valvular than natural; second sound accentuated. Cannot pass a metallic catheter, but succeeded in passing a No. 5 flexible catheter; drew off half a pint of urine. There is evidently a great enlargement of the prostate gland. Ordered ol. ricini, f $\overline{3}$ ss, and turpentine stupe to the abdomen.

August 7.—Better to-day; bowels slightly opened; catheter used. Ordered potassii bitartratis and infusion of juniper. 6.30 P.M. Ordered enema of turpentine and ol. ricini; caused much pain; ordered sup. opii gr. ij.

August 8.—Has had no passage; ordered Epsom salts and six ounces of punch; drew off about one quart of urine with catheter; ordered pill of colocynth gr. ij, ext. belladonnæ gr. $\frac{1}{2}$, pil. hydrargyri gr. j.

August 9.—Has had three stools; discontinued pills; ordered turpentine stupe to abdomen.

August 10.—Worse to-day; suppression of urine; ordered cat. lini to abdomen; passed a stomach-tube up the rectum to sigmoid flexure; little result.

August 11.—Has not passed more than a drachm of urine; ordered inf. digitalis $\overline{3}$ ss t. d., and cat. lini to abdomen; passages very liquid; steadily grew worse, and died at half-past three A.M.

August 12.—*Post-mortem examination.*—Rigor mortis well marked. Hyperstasis of posterior parts of the body. Heart enlarged; tricuspid stenosis; left ventricle, aorta, pul-

monary artery, and vena cava ascendens contained large, firm ante-mortem clots. Both kidneys contained abscesses; the left a cyst also. Peritoneum inflamed. A few bands of old lymph were found constricting the ileum and rectum, thus accounting for the partial intestinal obstruction.

Dr. HARRISON ALLEN said the mention of suppression of urine and the difficulty of telling it from retention interested him, and reminded him of a case which came under his observation,—that of a woman who had been drinking and had passed no urine for three days. He introduced a catheter, and was surprised to obtain but a very small quantity of perfectly fresh appearing urine. Her abdomen was large, and he thought possibly he had not entered the bladder perfectly, and went for his case of catheters. He found, however, that he was right. Dr. Allen had asked himself the question why this should be. It occurred to him that there might have been an overloaded cæcum, which, pressing on the ureter, retained the urine in it for a time. So in Dr. Nancrede's case, could not the ureter have been compressed by the product of superitoneal inflammation?

Dr. NANCREDE said it occurred too soon after free micturition to make this a probable cause. He referred to a case in which the urine contained blood and a small quantity of albumen, followed by a peculiar train of symptoms, eclampsia, cough, fetid breath (whence gangrene of the lungs was suspected), and afterwards great abdominal pain. After death one kidney was found converted into a thin-walled sac, containing a large amount of thin fluid, with complete obstruction of the ureter. He thought it not improbable that the man had had old kidney disease, and pyæmia had supervened upon the passage of instruments.

Dr. ALLEN said that all are familiar with the fact that in dropsy diuretics will not act until the bowels are relieved by purgatives, because of the previous pressure on the renal vein. He thought his supposition in this case not impossible.

Dr. H. LENOX HODGE said that it would be very difficult for any growth or enlargement to press so firmly upon the ureters as to prevent the urine from entering the bladder. The attachments of the ureters are so loose and the mobility so great that they readily recede from the pressure of any enlargement. Their coats are so thick and strong as to resist great pressure. It would be almost impossible for any enlargement to compress a ureter on all sides at once, or to press it against the bony walls of the abdomen or pelvis. Urine would reach the bladder unless the pressure occluded both ureters at the same time.

Dr. ALLEN said this, in his judgment, did not apply to the ureter low down in the pelvis, where it lies in the female, at the side of the true pelvis, previous to the canal inclining downward and inward towards the bladder.

As the ureter passes through the uterine plexus of veins near the cervix uteri, it is liable to be compressed by morbid products situated therein, and can even be lacerated in over-distention of the os. So that, in its pelvic relations at least, a comparatively slight cause might squeeze the ureter against the side of, or compress it at some other point *within*, the pelvis.

Dr. NANCREDE said there were old bands of lymph constricting the intestine, but the distention of the abdomen was almost entirely due to gas.

Dr. M. O'HARA thought, as to the opinion expressed by Dr. Allen, that the pressure of the column of fluid on the ureter, backed by the force of the blood, was very great, greater than any pressure from the abdominal effusion in ascites. We can form some idea of the amount of this *vis a tergo* from the enlargement of the bore of the ureter on the passage downwards of a large calculus, and we would feel assured that no mere weight of a passive fluid pent up in the abdomen would be able to overcome such a force.

Small calculus. By Dr. NANCREDE; notes by Dr. ROBT. MEADE SMITH.

R. D., æt. 4, admitted to children's surgical ward, Episcopal Hospital, September 5, 1877, with vesical calculus. Robust, healthy-looking boy.

Examination of urine.—Pale amber color; slight yellow flocculent deposit; reaction faintly acid; sp. gr. 1015; a trace of albumen. *Microscopically.*—Pus corpuscles, few blood-disks, squamous and cylindrical epithelium; no casts or crystals; granular débris. After having had bowels well opened with castor oil and enema, Dr. Nancrede extracted, by lateral lithotomy, an oxalate of lime calculus weighing sixteen grains. No accident or hemorrhage occurred in the course of the operation. The patient rapidly reacted from the ether which had been administered. Placed on milk diet. Some little oozing which occurred in the afternoon yielded to elevation of pelvis and application of cold. Slept all night.

Epithelioma of glans penis. By Dr. COMEGYS PAUL.

On the 15th of last May I first saw the patient who furnished this specimen. The glans penis was then a mass of ulceration, with exuberant granulations and many minute sinuses, from which a very slight pressure would cause to appear numerous vermicular bodies of a caseous consistence.

Nine months before, he first noticed a small ulcer situated in the depression behind the corona glandis, and involving the skin only. It gradually increased, although skilfully treated by his medical attendant. When he came under my professional care, I made efforts to cut down the granulations by caustics and stimulating ointments, and laid open the sinuses above mentioned, besides giving attention to his general health. He is a mar-

ried German, aged 52 years, and has never had syphilis. It was at first suspected that this condition had a syphilitic origin, and specific treatment was at one time adopted, but without any benefit, as was also the effect of all other treatment. Loss of sleep at night from pain, and the long-continued discomfort, at length began to undermine his strength and led me to recommend amputation. This he readily agreed to, and the operation was performed two weeks ago with entire relief. The method chosen was that of Ricord, in which, after the division of the parts by a circular sweep of the knife, the urethra should be split at several points and united to the skin with interrupted sutures. The result in this case is a stump about two inches long, the end presenting all the characteristics of a healthy wound, and partially covered with a foreskin.

REVIEWS AND BOOK NOTICES.

HOW TO USE THE OPHTHALMOSCOPE: BEING ELEMENTARY INSTRUCTIONS IN OPHTHALMOSCOPY. By EDGAR A. BROWNE, Surgeon to the Liverpool Eye and Ear Infirmary, etc., etc. Philadelphia, 1877.

The practical use of the ophthalmoscope is generally considered a terrible bugbear by not only students of medicine, but by many of the general practitioners; and in this little book Mr. Browne has done a good work in laying before them in a clear, concise, and complete form all the necessary practical points for those who desire to learn the use of the instrument and the examination of the different parts of the eye, as well as a little insight into the distinguishment of defects of refraction. The whole subject is treated in an elementary manner suitable for the beginner.

The arrangement of his work is very good, beginning in Section I. with the explanation of optical principles, laws of light, reflection, refraction, etc., and the eye as an optical instrument. In Section II. a sketch of the ophthalmoscope and the manner of its use is given. In Section III. there are descriptions of the appearances of the media, optic disk, vessels, retina, and choroid in a state of health; and in Section IV. he presents the diseases of the different parts, with practical use of the instrument in determining what part is affected, as well as its character and situation. In this section he touches lightly upon the defects of refraction, as it would be impossible to enter into such a deep and profound region in so small a work. For those who desire to go farther in the study he presents a list of standard works upon the subject.

What appears strange, however, is his recommendation of Liebreich's ophthalmoscope for a learner. This instrument was good in its day, but has been greatly improved on.

It is awkward to be slipping the lenses in the clip behind the reflector, while in the more modern instruments, such as Loring's and Knapp's, there is a series of convex and concave lenses in a rotary disk behind the reflector that can be turned while the instrument is held before the eye. And as they cost but little more, it would be advisable to get an instrument that will always be serviceable.

The book is well illustrated, and altogether gotten up in fine taste and order. It is the only work published on this special subject in English since that of Hulke, in 1861, and B. Carter's translation of Zander, in 1874; and we commend it to all students and practitioners who are desirous of getting an insight into the principles, use, and workings of this instrument as well as the knowledge of the fundus of the eye, etc. K.

FORENSIC MEDICINE AND TOXICOLOGY. By W. BATHURST WOODMAN, M.D., F.R.C.P., and CHAS. MEYMOTT TIDY, M.D., F.C.S. Philadelphia, Lindsay & Blakiston, 1878.

This work is comprised in one large octavo volume of nearly eleven hundred pages, and therefore compares in size with the two-volume treatise of Taylor. Without containing much, if any, original matter, it is well written, and very fairly represents the science of the day. It has seemed to us that that portion of the book which treats of other than toxicological matters is fuller and more absolutely satisfactory than is the section on poisoning. Whatever meagreness here may exist is not so much in the chemical aspects of the subject as in the history of symptoms, their character and import, and the best methods of treatment. We are pleased at the conservative advice given in regard to blood-stains; namely, that it is best on the witness-stand, unless in very exceptional cases, to confess inability to answer the question, Was the blood human? The chapter on gunshot wounds is very full and modern, and even affords opportunity for a flight in the higher mathematics. The book is well illustrated by means of both wood-cuts and chromo-lithographs.

So many excellent treatises on medical jurisprudence and toxicology are already in the market that no great necessity for the present volume seems to have existed. But, having undertaken their task, Drs. Woodman and Tidy have performed it well, and have added to the list already clamoring for patronage a work which, though not strikingly novel, is a well-gathered-together, clearly-written, useful treatise.

THE PRACTITIONER'S REFERENCE BOOK. ADAPTED TO THE USE OF THE PHYSICIAN, THE PHARMACIST, AND THE STUDENT. By RICHARD J. DUNGLISON, M.D. Philadelphia, Lindsay & Blakiston.

This is a large octavo of about three hundred and sixty pages, clearly printed on excel-

lent paper, and altogether forming a goodly volume. Its scope, so far as our memory serves, is a novel one; though whether the expressed hope of the author, that the book will "become an indispensable companion as a handy-book for every-day consultation," will be realized, is at present an open question. The introduction is the Hippocratic oath; after it comes a chapter entitled "General Information," taken up with weights and measures, thermometric scales, solubilities of various drugs, and abbreviations in common use. "Therapeutics and Practical Hints" occupies the next two hundred pages of the book, constituting its *pièce de résistance*. Doses of all kinds and varieties, incompatibilities, management of infants, obstetric hints and memoranda, urinary examinations, poisons, disinfection, artificial respiration, the modern treatment of disease, a table of diseases with remedies, etc., make up the olla-podrida of this remarkable literary banquet. The next course is "Dietetic Rules and Precepts," and finally for dessert we have the "Method of Making Post-Mortem Examinations." The well-known carefulness of Dr. Dunglison, and the wide extent of his knowledge of medical literature, fit him for preparing a work of character like the present, and we commend it to any who feels the need of such a volume.

PRACTICAL HINTS ON THE SELECTION AND USE OF THE MICROSCOPE. Second Edition. By JOHN PHIN. New York, The Industrial Publication Company.

The sale of a large edition of this book in two years justifies the favorable opinion which we expressed in the review of the first edition.

GLEANINGS FROM EXCHANGES.

QUININE EXANTHEM (*The Medical Record*, September 22, 1877).—Prof. Köbner, of Breslau, reports the case of a large, powerfully-built woman, 28 years of age, who was attacked with a syndrome closely resembling that of scarlet fever, whenever she took even a small dose of quinine. The symptoms consisted in a chill, which was sometimes repeated, a feeling of præcordial anxiety, nausea, vomiting, intense headache, high fever, and angina. A few hours after the chill an erythematous eruption made its appearance on the face, and spread rapidly over the entire body. It was attended by intense burning and itching, by slight œdema of the face, and injection of the conjunctiva. The color disappeared for a moment on pressure. The eruption on one occasion completely covered the entire body; on another, it was confluent on the upper part of the body, but discrete on the legs. On this occasion the eruption on the legs was slightly papular, and the lower border of the confluent part was not sharp, but gradually faded into the healthy skin. After a variable length of

time, according to the amount of quinine taken, the symptoms abated and desquamation began. The angina affected only the posterior wall of the pharynx, the soft palate and pillars being normal. Three times in the course of five months the patient was seized with these attacks. The first time, the exanthem broke out after three and a half grains of quinine had been taken. As a diagnosis of scarlet fever was made, the quinine was continued for eight days, and the eruption persisted for the same length of time. Desquamation then began, and continued for six weeks, and on the soles of the feet, in fact, for nine weeks. The fever was high and persistent, and the prostration was very great.

Three months later the exanthem reappeared, after a dose of two and a quarter grains of quinine. The stage of eruption lasted four days, and the desquamation three weeks. The third time, the exanthem made its appearance after a dose of only one and a half grains of quinine. The stage of eruption lasted only two and a half days, and the desquamation fourteen days. The affection this time ran a milder and shorter course than on the two previous occasions.

Dr. Von Heusinger, of Marburg, states that he has met with two cases in which symptoms entirely analogous to those described above were produced whenever even very small doses of quinine were administered. In these cases, however, the eruption was confined to the face. Both patients were women. One of them was at one time able to take quinine without inconvenience.

AN EPIDEMIC OF LEAD-POISONING (*The Medical Record*, September 22, 1877).—A very large number of cases of lead-poisoning have recently occurred in the 8th and 17th wards of Paris. Dr. Ducamp has had sixty-five of these cases under observation, and he made them the subject of a paper read before the Société de Médecine Publique on July 25. The patients belonged to all classes of the population; in some families all the members, both old and young, were affected. After careful investigation, Dr. Ducamp found that all his patients were served from the same bakery, and, as he could positively exclude all other methods by which the poison could be introduced into the system, he came to the conclusion that the bread was the *agens morbi*. Chemical examination showed that it contained lead; it was evident, however, from the character of the baker, and from the fact that he and all his family were among the most severely affected victims, that the lead was not placed in the bread with criminal motives, while, on the other hand, the fact that the water and flour used were the same as were used by the neighboring bakers, whose bread was not poisoned, showed that these substances were not toxic. Dr. Ducamp finally ascertained that the baker had been making use of old wood taken from demol-

ished buildings, to heat his ovens, and here he struck the root of the trouble. This wood had been repeatedly painted with white lead, and when it was consumed by the fire an oxide of lead was formed, which was deposited in a pulverized form on the floor of the oven. When the embers were withdrawn, and the bread put into the oven, the oxide of lead probably adhered to the bottom of the latter, and was removed with it. The correctness of this theory was confirmed by two striking facts: the persons whose duty it was to brush the bread, and who must have detached a portion of the lead and inhaled it in the form of dust, were the first to be affected, and had the most severe attacks. Again, in one family there were two women, of whom one ate only the soft part of the bread, while the other ate the crusts. The former escaped entirely, but the latter was attacked so severely that her life was in danger.

TREATMENT OF BLENNORRHAGIC EPIDIDYMITIS WITH IODOFORM OINTMENT (*The Clinic*, September 22, 1877).—Dr. Alvares, of Palma (Majorca), has treated four cases of epididymitis with iodoform ointment, and from his experience draws the following conclusions:

1. Iodoform calms the pain of blennorrhagic orchitis better than any other application: this result is obtained at the end of one or two hours.

2. Iodoform exerts a very manifest resolvent action, and has the advantage over the usually employed mercurial ointment of causing no trouble when absorbed.

3. The iodoform treatment shortens very appreciably the duration of the orchitis, and prevents any consecutive induration of the organ.

4. It is necessary to employ an ointment containing, according to the intensity of the inflammation, from one to two grammes of iodoform to thirty grammes of lard.

LACERATIONS OF THE CERVIX UTERI AS A CAUSE OF UTERINE DISEASE (*The Boston Medical and Surgical Journal*, September 20, 1877).—Dr. W. H. Baker reports twenty cases where laceration of the cervix uteri during labor has been a cause of severe uterine disease. He found the accident to occur most often in those labors which were rapid, with severe pains; also frequently in cases which had required the application of the forceps. In fourteen of these cases the laceration was on the left side of the cervix. Eleven of the cases were operated upon by Dr. Emmet's plan with the most satisfactory results. Dr. Baker gives the following résumé of the general symptoms of these troubles:

The first thing which attracts our attention in the list of symptoms is the tardy recovery of the patient, a "bad getting up," as she expresses it, and when more than the usual time has elapsed, and she thinks she should be able to be about, she feels somewhat discouraged on account of her inability to stand;

or it may be that with the attempt to walk more or less hemorrhage is noticed. As time goes on, intercourse may be complained of as being painful, or perhaps followed by a slight show; there is ever present backache, a sense of weight in the pelvis, pains extending down the thighs, a sensation of heat or burning in the hypogastrium, irregularities in menstruation, and throughout the whole there persists a more or less abundant leucorrhœal discharge. As the nervous system is continually taxed by the foregoing symptoms, it finally claims its full share in the trials to which the patient is subjected, and she is probably by this time a confirmed invalid, and may indeed think herself fortunate if she is not confined to her bed, a truly deplorable wreck.

The physical signs change very much, of course, as the case progresses. At an early stage we are struck by the size and softness of the cervix, and by the aid of the speculum we see at once the everted membrane of the canal, the epithelial layer of which is often abraded; later we have the large flattened, appropriately termed mushroom cervix, with its firmer tissue and shot-like feel; and still later we find the cervix hypertrophied, the tissue firm and indurated, and if it has been treated with caustics the surface covered over with cicatricial tissue and the substance as hard as a piece of granite. Or, the case having been left to itself, the epithelium becomes abraded, and the constant friction to which the part is exposed keeps it constantly irritated, so that the appearance might readily be mistaken for that of malignant disease. To all these appearances in this latter stage we might have added the various malpositions which have been occasioned by the change which has taken place in the cervix.

EXFOLIATION OF THE CUTICLE AFTER THE DEATH OF THE FŒTUS (*The Boston Medical and Surgical Journal*, September 20, 1877).—At a recent meeting of the Boston Obstetrical Society, Dr. Abbot, in answer to the question how long an interval of time is necessary after the death of the fœtus to produce exfoliation of the cuticle, said that he was recently called to a patient about to be confined, who was very large and uncomfortable from excessive distention. On examination in the afternoon he heard the sounds of the fetal heart distinctly; and the patient stated that she felt the motion of the child subsequent to the visit. On the second day after, a large dead child, weighing about ten pounds, was born. In the process of delivery there was considerable delay in the passage of the shoulders, and when they at length came a sheet of cuticle was peeled from the entire abdomen. During three or four weeks before labor, dating from an attack of cholera morbus, the motions of the child had been growing gradually feeble, and for the last week had been scarcely perceptible. The sagittal suture was unusually wide, as if from distention by an

excessive amount of serum in the brain, and the abdomen was somewhat enlarged. The child was plump, and there was no appearance of maceration of the cuticle. The labor was a hard one, there being scarcely any liquor amni. From the positive data of this case, the child could not have been dead more than thirty-six hours previous to delivery, and possibly not more than twenty-four.

DISLOCATION OF THE HIP (*The Louisville Medical News*, September 8, 1877).—Dr. W. O. Roberts reports the case of a girl, aged eight, who tripped and fell while running. She afterwards complained of pain in the left hip, and was confined to her bed for a day, but her parents did not notice that anything serious was the matter. She got up, walked about with something of a limp, which was still attributed to sprain or contusion. It was two weeks after her fall that Dr. Roberts was sent for to see her. He found then plain evidences of a dislocation. The right limb was fully two inches longer than its fellow. The limbs could be easily brought together while she was in a recumbent posture, and there was then no tendency of the injured one to project forward, although when she walked, which she did easily, there was projection of the limb, and some flexion at the knee. Reduction was made under chloroform, by Reid's method, quite easily after four or five revolutions. When the thigh was flexed over the abdomen, it went straight upward, inclining neither to the right nor the left, and the circumduction could be made with equal facility outward or inward. It was during an outward turn that the head of the bone was restored. The diagnosis was a dislocation forward and below the thyroid foramen on to the tuberosity. While locomotion is often preserved to a considerable extent in the thyroid dislocations, especially in children, the facility with which it could be performed in this case, where the head of the femur was thrown so far from its seat, was remarkable.

MORPHIA (*The Boston Medical and Surgical Journal*, September 20, 1877).—M. Calvet presents (*Thèse de Paris*, 1877) (1) a physiological research of the action of morphine upon the various functions of the organism; (2) a clinical study of morphine as a therapeutical agent, especially in the relations of acute to chronic morphinism. In the first, he observes that both intravenous as well as subcutaneous injection of the hydrochlorate of morphine accelerates respiratory movements, succeeded by a period of retardation, and produces sometimes a momentary arrest or respiratory syncope. The same relative effects occur with the cardiac movements: at first accelerated followed by retarded pulsations; sometimes even cardiac syncope. During this time animal heat exhibits analogous phenomena, namely, the elevated is followed by lowered temperature. In fact, the absorption of morphine, whether by intravenous or sub-

cutaneous injection, produces a very marked influence upon the reflex actions. In certain cases the period of exaltation does not occur, but immediately after the administration of the drug the temperature becomes lowered and the respiratory and cardiac movements are slower. Though he has not finally completed his researches, M. Calvet advances the opinion "that the above phenomena are dependent upon the integrity of the connection between the pneumogastric nerves and the encephalon, for if these two nerves are severed the above-named effects do not occur, but only the ordinary sequelæ observed after this section." In the second portion of this thesis M. Calvet offers the following interesting observations on chronic morphinism. Nutrition is deranged, the animals becoming emaciated; for instance, an animal who had received during a month a total amount of 3.52 grammes (twenty-five grains) of hydrochlorate of morphia lost almost half his weight, became torpid, had dilated pupils, walked with a jumping step, as if he had exalted sensation in the plantar surface. In this and other animals the secretions of saliva and urine were very much diminished; they died more often from marasmus or defective nutrition, but sometimes from convulsions as well marked as those which are observed in poisoning by strychnine. The anatomical post-mortem lesions observed in these cases were in the arterial encephalo-medullary region, and apoplexy in the vessels of the heart and stomach. Morphine was found in all the organs of the body, but not in the saliva or urine.

TRACHEOTOMY IN TUBERCULOSIS OF THE LARYNX (*The Clinic*, September 22, 1877).—We are accustomed to consider tracheotomy in laryngeal tuberculosis simply as a possible means of prolonging life for a short period. Dr. Seckowski, however, is of a different opinion. He has operated twice for tuberculosis of the larynx, and one of the cases on whom the operation was performed seven years ago is still alive, whilst the other lived for three years. Post-mortem examination of the latter showed well-advanced phthisis. The one still living was attacked with severe dyspnoea immediately after her return from a long journey. The writer resorted immediately to tracheotomy, when, after the introduction of the canula, his patient fell into a natural sleep which continued for forty-eight hours. Under general treatment her strength was regained and her cough left her, but she continued to wear the canula most of the time for two years,—that is, until laryngoscopic examination showed that the former morbid condition had left behind only a thickening of the vocal cords. Two years later there was still marked dulness to percussion over the apex of the right lung. Since that time she has never been examined; but the writer often sees her in an apparently well-nourished condition.

He expresses the opinion that the opening in the trachea was not only of temporary benefit, but that it prevented the extension of tuberculosis. He considers it necessary that the opening of the glottis should be sufficiently large to allow the easy expectoration of purulent secretion from the lungs, as well as the entrance of plenty of air. He therefore believes tracheotomy to be indicated in all contractions of the larynx, particularly in tubercular patients, for it saves the larynx as well as the lungs. It would not seem to be indicated in those cases in which the lungs are more affected than is the larynx.

TUBERCULAR ULCER OF THE TONGUE (*The Lancet*, July 21, 1877).—M. Nedopil, in the *Archiv für Klinische Chirurgie*, Band xx., remarks that the diagnosis of secondary tubercular ulcer of the tongue is generally not difficult, in the presence of other indications of tuberculosis. On the other hand, primary tubercular ulcer can often be scarcely distinguished from cancer unless a microscopic examination be made; while the failure of anti-syphilitic remedies denotes that the affection is not a syphilitic ulcer, which often has a similar appearance. The tubercular ulcer of the tongue runs a course resembling that of cancer. A small hard nodule on the edge or upper surface of the tongue, which is often overlooked, at last falls off and leaves a dirty ulcer with an indurated base, which generally spreads more slowly than a cancerous ulcer. A cure can be produced only by early extirpation, which perhaps may arrest the development of general tuberculosis. The author has observed four cases in Billroth's clinic: two of the individuals were thirty-two years of age, the others sixty-eight and seventy. In three cases the ulcer was extirpated, and healing took place in a few days. In the excised pieces, the tissue around the ulcer was studded with miliary tubercles, mostly towards the free surface. The morbid process appears to commence with a general transformation of the muscular tissue into a homogeneous slightly granular plasma, containing proliferating muscle-nuclei. Later, the primary deposits become confluent, and giant-cells are formed from the obstructed portions of the blood-vessels; in some of these Nedopil found cavities filled with brown pigment. The growth of the tubercle appears to take place partly through proliferation of nuclei (without cell-formation) in the interior, partly through metamorphosis of the neighboring tissue.

IN a breach-of-promise suit at Leicester, England, it was proven that the defendant, a clergyman, had taken five pills a day during a period of ill health which extended over thirty years. According to this, he must have swallowed some fifty-five thousand pills,—a fact which certainly entitles him to rank as one of the chief pillars of the church.

MISCELLANY.

JAPANESE PATIENTS.—Dr. Vidal, physician at Jokoska, Japan, writes that, according to the formulæ of speech, a treasure would not suffice to pay the advice of so great a sage as the educated physician, wherefore the Japanese content themselves with not paying him for his services, but only allotting a few pence for medicine and expenses of the visit,—a sum so insignificant that more often the European physician would feel insulted by its being offered, and therefore contents himself with the profuse compliments of his clients. On the whole, he does not consider a Japanese *clientèle* profitable; and, if cultivated at all, it could only be accepted as a supplement to a practice among the resident Europeans.—*British Medical Journal*.

PROFESSOR GROSS.—According to his own statement, in a letter to the *Louisville Medical News*, Prof. Gross, of this city, is now in his seventy-third year. We sincerely trust that in his eighty-third year the venerable master of American surgeons may still be able to write, "I never possessed greater aptitude for mental labor than I do at present. Naturally of a sound constitution and regular and systematic habits, with a well-regulated temper, I never miss a lecture or fail to meet a professional engagement."

THERMO-CAUTERY.—According to the *British Medical Journal*, the performance of tracheotomy by the thermo-cautery is a very customary feat now. The height of this retrogressive fashion has possibly been attained by M. Th. Auger, who has performed perineal section for a prostatic calculus by the thermo-cautery. This almost rivals the performances of the late M. Chassaignac with the *écraseur*.

At the Pennsylvania Hospital, during the last year, ending May 7, 1877, there were treated, in-door department, 1773 patients; out-door department, 3563 patients. The legacies and donations to the permanent fund amounted to over \$7000.

FASHIONABLE ENTERTAINMENTS FOR THE WEEK.—"Going to the Throat and Ear Ball, Lady Mary?" "No; we are engaged to the Incurable Idiots." "Then perhaps I may meet you at the Epileptic Dance on Saturday?" "Oh, yes, we are sure to be there. The Epileptic managers are so delightful."—*London Punch*.

UNDER the head of "Honors to an American," the *St. Louis Clinical Record* makes the following very severe statements, which if true ought to be generally known, and if not true ought to subject the editor of the *Record* to damages for libel:

"Several of our contemporaries are giving great prominence to Dr. Sayre's very flattering reception in England. It seems that Dr. Sayre went to England to advertise his (*sic*) method of treating spinal curvature. He intends to publish a book describing his (?)

processes, and expects a large sale under an English copyright.

"This would be all very well—in fact, just as it should be—if Dr. Sayre had ever invented anything, which he never did, so far as we are informed.

"'Dr. Sayre's hip-joint splint' was invented by Dr. Davis.

"'Dr. Sayre's plaster-of-Paris jacket' was invented and first applied by Dr. Bryan, of Lexington, Kentucky.

"'Dr. Sayre's method of self-suspension in rotary-lateral spinal curvature' was invented by Dr. Benj. Lee, of Philadelphia.

"'Dr. Sayre's lectures on orthopædic surgery' were by Dr. Louis Bauer, formerly of Brooklyn, New York, now of St. Louis.

"As a plagiarist and 'father of other men's ideas,' Dr. Sayre is without a rival. We are glad to see that our English cousins delight to honor such representative Americans (Heaven save the mark!) as P. T. Barnum and L. A. Sayre. *Vive le humbug!*"

DR. MATTHEWS DUNCAN, having accepted the invitation to assume the duties of obstetric physician to St. Bartholomew's Hospital, will settle in London.

SPINA BIFIDA.—A case of successful treatment with the elastic ligature is reported in the *Medical Times and Gazette*, August, 1877, p. 213.

NOTES AND QUERIES.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—In your issue of September 15, 1877, is contained a communication on "The Successful Treatment of Three Cases of Pityriasis Rubra." Perusal of this paper shows beyond question that the cases therein referred to cannot possibly be regarded as examples of pityriasis rubra as the name is understood and employed by writers on diseases of the skin of the present day. What affection precisely is meant, it is difficult to determine from the notes, for they are too brief to enable one to arrive at any conclusion; but that the cases were not true pityriasis rubra—an extremely rare disease, single instances of which are only very seldom encountered, even in largest clinics for diseases of the skin in Europe—appears evident from the description of the symptoms, history, and course of the disease, which are quite at variance with what is known concerning this affection.

Very truly yours,

L. A. DUHRING.

PITYRIASIS RUBRA (?).

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

SIR,—In a recent number of the *Medical Times* (September 15) there appeared an article including "Notes of Three Cases of Pityriasis Rubra." I trust I shall not appear hypercritical if I express frankly very serious doubts as to the correctness of the designation which has been applied to these cases. Not having seen them, it would perhaps be rash to express a decided opinion as to their true nature. The description, however, of the affection, as given in the article referred to, might easily apply to psoriasis. Pityriasis rubra is one of the rarest among skin diseases. So far as I am aware, but a single case has been reported in this country.

Very truly yours,

ARTHUR VAN HARLINGEN.

A CORRESPONDENT requests light as to the best treatment of urticaria or hives; also a formula for application to chafed infantile skin. Will some of our subscribers please give it through these columns?



PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 27, 1877.

ORIGINAL COMMUNICATIONS.

ON THE RATIONAL TREATMENT OF DYSENTERY.

BY H. C. WOOD, M.D.

EVERY practitioner of medicine must be acquainted with the fact that anginas or sore throats are divisible into two classes,—those which are mere local inflammations and those which are the expression of a graver malady, *i.e.*, of a constitutional condition, or, as the fashion of the day terms it, a blood-poisoning.

It may not be equally well recognized, but it seems to me equally true, that all dysenteries may be similarly divided. One man is exposed to wet and cold and gets a sore throat, while his neighbor, under a similar influence, falls ill of dysentery. One man is thrown in contact with the diphtheritic poison and gets a constitutional sore throat, whilst another takes in the infection of a crowded, unclean camp and suffers from a constitutional dysentery.

Any practitioner called to treat a severe simple angina uses both constitutional and local measures; but it is scarcely a misstatement to affirm that the chief reliance is always on the nitrate of silver or other local remedies which are employed. Even if the sore throat be the local manifestation of a constitutional disorder, local applications are made by almost every physician, and by many they are used very energetically.

If we turn to inflammation of the other end of the alimentary tube, we find the treatment in vogue very different from that practised in anginas. Local measures (except the use of opium) are employed very imperfectly, or, in the vast majority of cases, not at all. The object of the present communication is to call attention to this anomaly, and to enter a plea for the energetic and wide-spread trial in colitis of local treatment.

This disuse of local applications in dysentery is largely, no doubt, the result of our former inability to make applications to any other than the extreme lower portions of the colon. By the use of forced enemata, so called, we are now, however, able to reach every part of the large intestine.

In giving such injections, it should be

first remembered that the name is a misnomer; that no force should ever be used. The patient should be brought to the edge of a hard bed, placed in a position somewhat resembling that for lithotomy, his buttocks resting upon a hard pillow in such a way as to elevate the pelvis and cause the injected fluid naturally to flow downwards and inwards. A well-oiled, smooth, somewhat flexible, hard tube, with openings in the sides (an œsophageal tube will answer well), and with a closed end, must then be gently and slowly introduced from eight to twelve inches into the rectum. The free outer end of this may be connected with a Davidson's syringe, and the fluid thus be slowly pumped in. A better plan is to unite it with a flexible india-rubber tube, in the end of which a funnel is inserted. This being elevated five or six feet, the water is poured in, and by its own weight, with irresistible gentleness, forces its way into the gut. Instead of a funnel being employed, the tube may be so arranged as to empty a bucket or other reservoir of water placed five or six feet above the patient. A direct connection may be made, or the principle of the siphon taken advantage of. Finally, the so-called fountain syringe may be substituted. In any case the liquid should be about the temperature of the body, so as not to provoke peristalsis by the stimulus of heat or of cold.

Our experience with other portions of the body would teach us that different forms and stages of dysentery require variety in the character and strength of applications. This no doubt is the case; but my experience in angina led me at once to fasten upon nitrate of silver in these experimental trials, and this remedy has worked so well that with the few opportunities offered no other has been applied.

Drachm doses of the nitrate have in no case produced any constitutional symptoms, and doses of less than forty grains have not accomplished much good. Twenty-five grains to the ounce is a very common strength for use in angina, and when a drachm of the nitrate is dissolved in three pints of water for an injection, the strength of the solution is only a little over a grain to the ounce. The period of application is, however, much longer than in the case of the throat, and the mucous membrane of the gut is probably more sensitive. The

injection usually comes away in from five to ten minutes, but I have often seen it retained twenty minutes. I have always provided common salt, so that a solution of a chemical antidote could be at once thrown up the rectum if symptoms of general action were developed. No occasion has ever occurred for its use, but in the present stage of our experience it would perhaps be safer to use the salt, if at the end of ten minutes there were no indications of the expulsion of the silver solution.

Owing probably to the mildness of the past summer, but one case of acute dysentery has offered itself in my service at the Philadelphia Hospital. This case, which evidently represented the local form of the affection, was treated almost solely with nitrate of silver injections, and briefly noted is as follows:

Case I.—Wm. S., admitted July 13. Had had some diarrhœa a few days, but on morning of admission suffered from a chill, followed by a fever, by frequent mucous bloody stools, constant tenesmus and desire to stool, tenderness over colon, and other dysenteric symptoms. Ordered milk diet and forty grains of nitrate of silver by the rectum, and two grains of opium by mouth.

July 14.—Patient comfortable since injections; had only three passages during night. Injection and opium repeated. Had four passages during day, the last containing scybala; and at night was ordered castor oil and laudanum.

July 15.—Had three large, fecal, slightly mucous and bloody stools during the night. Injection as before.

July 16.—Since injection, two evacuations, chiefly fecal; no treatment.

July 18.—Patient convalescent. Evacuation normal. Diet improved.

July 27.—Discharged cured.

A single case, of course, affords but one peg upon which to hang an argument; but in the present instance the peg is as strong as it can be. The very favorable result certainly warrants a more extended trial of the remedy.

Chronic diarrhœa, so called, is undoubtedly, in the majority of cases, really a chronic dysentery, *i.e.*, a chronic colitis. Notwithstanding all that has been written, a considerable experience in my own practice and that of others has convinced me that it is not always possible to make a positive diagnosis in this class of cases as to the seat of the affection. When the disease is an enteritis, injections must fail to reach the affected part, and consequently

fail to do good. This introduces an element of uncertainty into the results of treatment, and must be expected to give rise to an occasional disappointment.

The cases about to be noted have been taken one by one as they entered my ward in the Philadelphia Hospital.

Case II.—R. S., admitted June 20 with diarrhœa of one month's duration; stools sixteen to twenty daily, variously colored, thin, slimy, streaked with blood, accompanied with griping pains.

July 5.—Patient has been treated, besides counter-irritation and opium *pro re nata*, first with calomel and ipecac; then with astringents; then with nitrate of silver; then with forty-grain doses of bismuth every three hours; the diet being a purely milk one throughout. He is much worse than when he entered; excessively weak and emaciated; passages unchanged in character; has had seventeen in last twelve hours. Fifty grains of nitrate of silver in a quart of water were thrown very high up in the colon (tube being introduced fourteen inches), and were retained seventeen minutes; two grains of opium were given by mouth, and turpentine stupes and poultices applied.

July 6.—Has been very comfortable since enema.

July 7.—Bowels opened for the first time since enema; color dark, consistence mushy.

July 9.—Bowels again opened; character as last. Injection repeated.

July 14.—Fairly convalescent; bowels normal; diet altered.

August 1.—Discharged cured.

August 28.—Reported that he had no return.

Case III.—Sarah K., admitted June 23 for diarrhœa of two months' standing. She is very much emaciated, and has from six to ten stools in the twenty-four hours; passage thin, slimy, streaked with blood, variously colored; there is some tenesmus; tongue covered with a brown, pasty fur.

July 11.—The treatment since entrance has consisted of milk diet and opium *pro re nata*; calomel and ipecac; subnitrate of bismuth in forty-grain doses every two hours; lead; vegetable astringents; sulphate of zinc; sulphate of copper; finally oil of turpentine. The patient has received no advantage, her general condition being worse and her diarrhœa unchanged. Sixty grains of nitrate of silver given, and retained twenty minutes; turpentine stupes to abdomen, and two grains of opium by the mouth after injection.

July 12.—Patient passed a comfortable night; bowels opened but once since injection. All treatment, except a little opium, suspended.

July 13.—Two thin, slimy passages.

July 14.—Five passages; injection repeated.

July 15.—Patient very comfortable; no passages since enema came away.

July 20.—Patient convalescent; no return of the diarrhœa.

July 30.—Discharged cured.

Case IV.—Louisa M., admitted July 11, had suffered eight days from diarrhœa, with numerous copious, slimy, very offensive discharges daily; tenderness over descending colon.

July 29.—The treatment since entrance has consisted of proper diet; opium, calomel, persisted in until slight pytalism was induced, followed by opium, large doses of subnitrate of bismuth, and moderate doses of vegetable astringents; then turpentine freely by the mouth. The patient is much worse than when she entered; very weak; passages unchanged in character, nine in the twenty-four hours. All medicines stopped except some opium. Fifty grains of nitrate of silver ordered daily by injection.

July 30.—Four passages in twenty-four hours.

August 2.—One large, mush-like passage in twenty-four hours. From this time convalescence went on regularly, the diet was gradually increased, and August 29 the patient was discharged well.

Case V.—John K., admitted August 1 for diarrhœa of three months' standing, for which he has been unsuccessfully treated by various physicians. Stools numerous every day, very offensive, highly mucous, and bloody. Ordered restricted diet. Sixty grains of nitrate of silver by injection ordered.

August 5.—But three passages in twenty-four hours; the injections given at intervals of several days.

August 15.—Convalescent; diet increased.

August 30.—Discharged entirely cured.

Case VI.—E. W., æt. 32, laborer, admitted September 10, suffering from diarrhœa of three weeks' standing. The discharges were said to have been at first very frequent, watery, and fecal. After a time blood and mucus appeared in them. At time of admission he had from fifteen to twenty passages in the twenty-four hours, chiefly serous and fecal, but sometimes containing mucus streaked with blood. He was treated until September 18 with castor oil, acetate of lead and opium, tannic acid and opium.

September 18.—Patient better than on entrance; no blood or mucus in passages for two days, but they are still very watery, seven and eight in the twenty-four hours. Received fifteen grains of nitrate of silver in a pint of water; it was retained about twenty minutes.

September 20.—Four passages in twenty-four hours; character unchanged; towards evening a second injection given.

September 24.—Since last date has received no injection; the passages have been decidedly thicker and more fecal, but quite as frequent, from seven to twelve in twenty-four hours. Received forty grains of nitrate of silver in a quart of tepid water; retained only four minutes.

September 25.—Only one passage during the night.

September 27.—Had during twenty-four hours of September 26 two passages, natural in color and much thicker in consistence. Injection repeated.

September 30.—Passages during last twenty-four hours three in number, natural in color, formed. Had injection of fifty grains on 28th.

October 18.—Passages as before, but an injection was administered.

October 11.—Since last July patient has steadily maintained his improvement. Has each twenty-four hours two to three formed, natural passages.

Case VII.—Michael Grassman, admitted September, 1877; previous to admission had been passing for about six weeks watery evacuations from the bowels, mixed at times, according to his statements, with blood and mucus. The number of discharges during the twenty-four hours has ranged from fifteen to thirty. There was no blood in any of the passages examined by the resident physician.

The tenderness was diffused over the whole abdomen, but was especially located in the umbilical region.

On September 20, at 7 P.M., an injection of nitrate of silver (forty grains to a quart of tepid water) was given; the injection was followed in six minutes by a watery passage, very slightly colored, and during the night five passages occurred of a similar nature.

September 21.—At 10 A.M. a second injection was given of the same strength. In five minutes occurred a watery passage.

September 22.—Another injection.

September 24.—During 23d had five passages.

September 25.—During the 24th had nine passages. Injection repeated.

September 26.—Injection; no improvement.

September 28.—Injection of fifty grains; no improvement.

October 4.—Several injections have been given since last entry, but, as the patient has in no wise improved, treatment is discontinued.

Extended remark upon these cases is scarcely necessary. Attention may, however, be called to the facts that Cases II., III., IV., and VI. had been in the house from one to seven weeks, and had been unsuccessfully treated with the ordinary remedies for chronic dysentery before the nitrate of silver was used; that there was no change of diet at the time of injection, and that no medicine, save a little opium, was given by the mouth; yet in Case II. two injections, in Case III. two injections, and in Case IV. four injections sufficed for a cure. In Case VI. smaller doses of the

silver salt were tried before injections of forty grains were practised. It is instructive to notice that these smaller amounts failed almost entirely.

In regard to the last case, in which injections failed entirely, much doubt exists as to the seat of the disease. The tenderness was certainly much more decided over the small than over the large intestines, and the passages that were seen were simply large, watery, sero-fecal discharges. When the injections were suspended, appropriate treatment for chronic enteritis was instituted. Improvement commenced at once, and, although at present writing sufficient time has not elapsed to warrant a positive conclusion, the prospects of cure seem good.

In conclusion, I do not want to claim for the local treatment of dysentery anything more than a wide-spread trial. The results which it has yielded in the series of cases here published are certainly very encouraging, but the number of trials is too few to stamp the method of treatment as confirmedly orthodox.

MORE OF FALLACY IN TROMMER'S TEST.

BY GEORGE HAY, M.D.

MY communication regarding the "Fallacy of Trommer's Test" in the *Medical Times* of July 21, 1877, presented one side of the question. In this article I desire to present the other side to the notice of the profession. In my first article it was stated, and I think proved, that in a sample of urine the indication usually accepted as demonstrating the presence of sugar by means of Trommer's test might be obtained in the entire absence of sugar, and it was further shown by what means greater certainty in testing might be arrived at. Now I propose to show that the indication for sugar may not be obtained, while at the same time sugar is actually present, and I will attempt further to point out a method whereby we may get reliable information regarding the presence or absence of sugar in any sample of urine. With this object in view, it will be advisable to explain that the most reliable testing liquid is procured in the following manner. To a neutral solution of sulphate of copper free from iron and other impurities add a solution of

neutral tartrate of sodium, and stir the mixture in the cold. In a short time a nearly white or slightly bluish precipitate of tartrate of copper will fall. Decant from this the supernatant fluid, and wash the precipitate twice with cold water by decantation. Cover the precipitate with a moderately strong solution of caustic soda, and stir for a few minutes, when it will be found that the tartrate of copper will dissolve, forming a liquid of a deep-blue color. Filter this solution into a glass-stoppered bottle, and preserve for use in a cool place away from the light. That this is an efficient testing liquid appears from the fact that if to a few fluidrachms of pure water we add a minute quantity of grape sugar, and pour a small quantity of this feebly saccharine solution into a test-tube, and, after rendering it slightly alkaline by means of a few drops of a clear solution of caustic soda, we then add of the testing liquid sufficient to produce a distinct and pretty strong blue color, as soon as this mixture is brought to the boiling-point a beautiful red or orange-red precipitate of suboxide of copper will be obtained, and that without delay. So much is true as regards an aqueous solution of sugar. But I find that frequently the case is quite different when instead of pure water such a complex liquid as urine is the solvent for the sugar. I now know from oft-repeated and carefully-performed experiments that there exist frequently in urine a substance or substances soluble in alcohol which have the power of retarding the precipitation of suboxide of copper even when sugar is known to be present. I submit the following proofs. A patient who had all the symptoms of diabetes mellitus handed me a sample of his urine for examination. The urine was of high specific gravity, but free from albumen, and not loaded with urea, as was the case with the sample spoken of in my former letter. A quantity of the urine was evaporated to dryness on the water-bath. The dry residue was treated several times with boiling absolute alcohol, and the alcoholic solution filtered while hot, and then evaporated to dryness. The alcoholic extract (which I observed, by the way, contained all the yellow coloring-matter of the urine) was dissolved in water and again filtered. The filtrate, after being rendered alkaline by a few drops of solution of caustic soda, had added to it a little of the above-mentioned test liquid, and

was then boiled in a test-tube. The fluid changed from a blue to a green, and finally to a brownish color, but no precipitate formed after boiling for a minute. I noted the time, and set the tube afloat in the water-bath, maintained at 212° F. In about twenty minutes there was a distinct precipitate of suboxide of copper. I repeated this experiment several times, and obtained, with wonderful regularity, the same succession of phenomena. To another portion of the same urine I added a notable quantity of grape sugar, evaporated, treated with alcohol, filtered, etc., exactly as already described; but upon testing got no precipitate after a minute's boiling. I noted the time, and set the tube afloat in the water-bath, maintained at 212° F., and in about fifteen minutes there appeared an abundant precipitate of suboxide of copper. I repeated this also several times, and always with the same results. The tendency of the age is to hurry over things,—to shirk work; and the above shows, I think, conclusively, that we may easily miss the sugar altogether, if we are in too much of a hurry. I have found that some urines yield the test at once, owing to the absence in the alcoholic extract of substances which delay the precipitation; others yield the test only after a time, owing to the presence of such substances. Not all urines are alike in this particular. It will not do to omit the evaporation, extraction with alcohol, etc., as above detailed, if we wish to obtain reliable results; for phosphates and some other substances, inorganic and organic, are precipitable by alkali, and when the liquid changes color, as it will do in the entire absence of sugar, a precipitate may be obtained which even an experienced person might too hastily conclude to be suboxide of copper, the precipitate being merely something resembling suboxide of copper, or it might even be the suboxide and yet have been reduced by something which was not sugar. On the other hand, haste might lead to conclusions of an opposite kind. A great deal of the confusion which has hitherto existed in the matter of testing urine for sugar has arisen from the circumstance that writers of books are too prone to follow one another without careful independent examination.

To sum up: I humbly submit my opinion that the following may be taken as a sure method of testing for sugar in urine.

Prepare a solution of tartrate of copper as above described, and also a solution of caustic soda. Observe that both these solutions are perfectly free from sedimentary matter. Evaporate the urine to dryness, extract with boiling absolute alcohol, and filter while hot; evaporate again, dissolve the residue in water, and filter once more. Apply the test as above described, and, if no precipitate is obtained at once, place the test-tube in the water-bath, maintained at 212° F., and wait for half an hour. This waiting is of the utmost importance, and must not be neglected. If by the end of thirty minutes' time a precipitate of suboxide of copper is obtained, sugar is certainly present; if no precipitate of suboxide of copper is obtained when the half-hour has expired, then sugar is certainly absent.

LABOR COMPLICATED BY LOCKED TWINS — CRANIOTOMY — VER-SION.

BY G. WILDS LINN, M.D.,

Obstetrician to the Philadelphia Hospital.

ON Monday evening, April 2, at ten o'clock, I was summoned by Dr. J. D. Downs, of Marlton, New Jersey, at the request of Prof. Penrose, to see, in consultation, a case of labor involving a complication, the nature of which he had not been able to determine.

The history of the case, as he gave it, was as follows:

The patient, Mrs. F., was a primipara, upwards of 30 years of age, and had been in labor since the preceding Thursday, a period of nearly five days. Finding on Saturday that no apparent advance was made, he called to his assistance Dr. Moser, (?) who recommended the administration of an opiate, which was given, and the patient was left under its influence until the next day (Sunday). An examination on Sunday afternoon at four o'clock showed a head in the cavity of the pelvis, the cervix being well dilated, but no important advance had been made since the day before. The face was presenting, and, as some grave complication was evidently present, Dr. Stokes, an experienced physician of the neighborhood, was called in. The face presentation was changed to a vertex, and the forceps applied, but the head still refused to descend. A trocar was then used to puncture the cranium, and the brain was removed, but without any efficient result, and twenty four hours later found the patient sinking and her condition demanding prompt surgical interference.

With this history, I reached the patient on Tuesday at half-past two A.M. I found her to be a woman of medium height, strong and well formed, and evidently of very active habits. She was much prostrated, not having been able to retain nourishment for several days, and for ninety-six hours had had no sleep save the little which the opiate had induced; temperature high; pulse 140, and compressible. The abdomen was exceedingly large and projected in a very conical shape anteriorly, the walls showing no special irregularities. I particularly inquired of the patient whether she had ever noticed any tumor in the abdomen, and for the symptoms attending uterine and ovarian tumors, but with negative results. Her menses had always been regular, and no deformity had been apparent. The uterine walls were in a state of tonic contraction, and careful auscultation failed to reveal foetal heart sounds.

Digital examination showed the vagina to be very dry and hot, and etherization was resorted to in order to make the examination satisfactorily. The pelvic brim, according to external measurement, did not seem contracted; but the head projected so much, filling up the cavity so entirely, that I could not determine by vaginal examination whether there was any shortening of the conjugate diameter,—which my colleagues suspected. The cranium was partially collapsed, in consequence of the previous introduction of the trocar, and I succeeded in removing most of it with Meigs's craniotomy forceps, after which I seized the base of the skull with Barnes's cephalotribe, and, by strong traction, extracted a well-developed child.

I then discovered a second child presenting by the left shoulder, which had already partially descended into the brim,—dorso-anterior position. I at once proceeded to perform bimanual podalic version, which I found exceedingly difficult under the circumstances, the uterus being strongly contracted, while its walls had been greatly distended by the presence of twins, and their vitality diminished by prolonged and fruitless contractions, making the operation very dangerous. As soon as delivery was accomplished, ergot was given, the uterus firmly contracted, and the removal of the placenta was fortunately not attended by any unusual amount of hemorrhage.

The patient was necessarily much prostrated, and rallied slowly from the effects of the anæsthetic. The usual stimulants were administered, and she rallied completely for a time. She remained, however, very much exhausted, and Dr. Downs wrote me that she died thirty-six hours after the operation. I had earnestly desired him to secure a post-mortem examination, for I was anxious to ascertain the condition of the uterine walls where they had been in contact with the pubes and promontory, but he was not able to do so.

The child first delivered weighed, minus the brain and a large part of the cranium, six pounds; the second, eight pounds.

Remarks.—Cases of locked twins are exceedingly rare, and hence interesting to obstetricians. Here, the head of the first child descending into the pelvis, the thorax became engaged with the descending shoulder of the second, which was presenting in the dorso-pubic position, the head being in the right iliac fossa. M. Jacquemier relates a case almost precisely similar (*vide Cazeaux*) which was witnessed by him at the Maternity Hospital. "A woman who had been in her labor nine days was brought to the hospital in a dying condition; the waters were discharged three days before, and the forceps had been applied without success. At the autopsy two children were found in the womb. One head had descended into the excavation in the left occipito-cotyloid position, and had passed the uterine orifice. The other child was in the second position of the left shoulder; its head rested in the right iliac fossa, and the front of its neck, which was situated below the anterior shoulder of the first fœtus, embraced the neck of the latter in a semi-circle so as to prevent a further descent of the trunk."

Madame Lachapelle relates a case in which the head of one and the chest of another simultaneously engaged in the pelvis; but, both children being very small, delivery occurred spontaneously.

LACERATION OF THE VESTIBULE — PROFUSE HEMORRHAGE — CLOSURE BY FIVE SILVER WIRE SUTURES — UNION WITHOUT SUPPURATION.

By FRANK E. BECKWITH, M.D.,

House Physician of the Nursery and Child's Hospital, New York.

LACERATIONS of the vestibule during the last act of the second stage of labor are of every-day occurrence, giving rise to slight hemorrhage only, and requiring no surgical interference. But lacerations in this situation not due to the passage of the foetal head are of equally rare occurrence, requiring surgical aid, and invariably bleeding freely.

The following is a typical case of the latter class of injuries:

Mrs. C., 31 years of age, is nursing her third child, now ten months of age. There is no subinvolution of the internal or external organs of generation. Upon the 5th of September Mrs. C. fell heavily astride the back of a small wooden arm-chair.

Fifteen minutes after the accident, I found her lying upon the floor, her skirts saturated with blood, with the vestibule torn from the clitoris to the meatus of the urethra. The laceration was deep and clean-cut, extending obliquely between the points mentioned, looking like wounds of the integument and muscle made by the edges of broken glass. From the wound the blood poured in a steady stream. There was no spurting from an artery of considerable size.

Holding the edges of the wound together with my thumb and forefinger, although the hemorrhage was troublesome, I inserted five silver wire sutures.

As soon as these were twisted together, the hemorrhage stopped.

The urine was drawn, the patient placed upon her back in bed. She was not allowed to pass water during the next twenty-four hours without the catheter. The sutures were removed upon the 8th of September, seventy-two hours after insertion.

From the suture-holes blood oozed for fifteen minutes, but ceased without the use of a styptic. There had been no suppuration.

Upon a careful examination the wound presented no ununited portion, but, instead, a narrow line of firmly-united tissue between the clitoris and meatus. Probably in this case the hemorrhage would not have stopped without the use of subsulphate of iron or other styptic. I thought it best not to wait or to use any styptic application. I was certain that union without suppuration would take place in this case, if the wound were closed while bleeding freely, from my experience with many similar lacerations of the perineum, which almost invariably so united, although closed while profuse hemorrhage was present.

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AMPUTATION OF ARM WITHOUT LIGATURES.

BY R. H. MILNER, M.D.

THE following case of amputation of the forearm without the necessity of ligating a single artery is, so far as I have been able to learn, entirely unique. None of the works on surgery with which I am acquainted make any mention of such a case, nor have I yet found any surgeon who has met with a similar one.

As the manner in which the injury necessitating the removal of the arm was received may have had, in some way, some-

thing to do with the prevention of hemorrhage, I will first describe it. The accident occurred in the granite-quarry of J. W. Malone, Esq., at Port Deposit, Maryland, on the 4th of March, 1876.

John Boyd, Jr., and Olmstead Green, colored, were employed in blasting. They had bored a hole about two inches in diameter to the depth of twelve feet in the solid rock. This was charged on the evening of the 3d of March. On attempting to fire the charge on the morning of the 4th it was found that the fuse had become saturated with water at some point, and would not carry the fire to the powder. Against the standing order of Mr. Malone, they proceeded to bore out the charge to make room for another. Unfortunately, just as they were about to succeed in this hazardous undertaking, the drill, an iron rod one and a half inches in diameter, and twelve feet long, struck fire and ignited the charge. As both men had a tight grasp on the drill, which they were working with their hands, these members were literally torn to pieces. Boyd fared worst, losing both hands, the right being removed at the junction of the lower and middle thirds of the forearm, the left at the middle of the forearm. The left humerus was also fractured about the middle. The right arm was amputated first, and no trouble was found in finding and ligating the arteries; but on removing the left and slacking the tourniquet, it was found that no blood, with the exception of a little venous oozing, flowed. Nothing approaching the spurting of an artery could be seen, even after the tourniquet had been entirely removed. A most diligent search for the arteries was entirely futile. The patient was left with a competent attendant while his fellow-sufferer was attended to. At the end of two hours another and more thorough search for the arteries was made, with no better success. The stump was then dressed with interrupted suture, Maltese cross, and bandage in the usual manner. The fracture was treated by placing the arm in a tin trough. The stump of this arm healed sooner than did that of the right, the healing of the latter being delayed by suppuration depending on extensive powder-burns on the arm from the seat of amputation to the shoulder. There was at no time any hemorrhage from the left arm, nor was there any sloughing of the flaps. That the circulation was not interfered with by the fracture of the humerus is certain, as the pulsation of the brachial artery could be felt as far down as the elbow.

WORMS EXTRAORDINARY (*Louisville Medical News*).—Dr. C. D. Arnold extracted six hundred and ninety-nine lumbricoid worms from a child with oil of wormseed. One would think that the wormseed hatched rapidly.

TRANSLATIONS.

CATARRHAL JAUNDICE TREATED BY ENEMATA OF COLD WATER (*Bulletin Gén. de Thérap.*, September, 1877, p. 212).—As soon as the diagnosis of catarrhal jaundice is made, Dr. Krull, of Mecklenburg, commences injecting two to four pints of water into the rectum by means of irrigation. The water should be about 59° F. in temperature, and the operation should be practised once in twenty-four hours. When the enema is repeated, the temperature should be raised a few degrees, because the intestine does not bear well repeated contact with water of the same degree. The patient should be instructed to retain the fluid in the bowel as long as it is possible for him to do so. The notes of eleven cases are given, showing that, after a few injections in the manner described, the stools became colored with bile, the tenderness in the hepatic region, the malaise and headache, disappeared, and the anorexia was notably decreased. A cure usually resulted after the administration of seven cold-water injections, and is supposed to be due to the stimulation of the peristaltic action of the intestines and to the excitation of the biliary secretion, which, by its increased quantity in the passages, overcomes the obstacle to its free escape.

J. B. R.

LIQUORICE IN DIABETES MELLITUS.—M. Martin (*Bulletin Gén. de Thérap.*, September, 1877, p. 222) has experimented with liquorice in order to determine whether it can be employed in the dietetics of diabetic patients. Having under his care a man suffering with this disorder, he made him drink daily about one quart of an infusion of liquorice-root, and ordered his coffee to be sweetened with a small quantity of a stronger infusion. This lessened the bitterness of the coffee, but did not destroy its aroma or other qualities. A daily examination of the urine showed not the least increase in the amount of sugar excreted. These experiments, and others by the same author, show that patients of this description may use liquorice, without fear of increasing their malady, for the purposes for which sugar is ordinarily employed.

J. B. R.

ATROPHY OF THE TESTICLES AFTER MUMPS.—M. Lereboullet at a meeting of the Hospital Society (*Bulletin Gén. de Thérap.*, September, 1877, p. 233) pre-

sented a soldier, aged 22 years, who four months previously had been attacked by mumps. At that time he had every appearance of virility, but four days afterwards double orchitis occurred, under the influence of which the testicles swelled until they were each the size of a fist. The organs subsequently became atrophied until they were reduced to the volume of an almond; at the same time there was evident a considerable development of the mammary glands. The beard also was arrested in its growth, and the patient had a perfectly smooth chin as a result of this physiological process of depilation.

J. B. R.

CHLORATE OF POTASSIUM IN CERTAIN FORMS OF DIARRHŒA.—It is stated (*La Andalusia Médica*, Cordova, August, 1877, p. 174) that Dr. Vonfigli employs chlorate of potassium in the diarrhœas which occur chiefly in cachectic patients attacked with nervous affections, and which consist of very frequent serous evacuations. These diarrhœas, called by the author "vaso-paralytic," are rebellious to treatment by astringents and narcotics, and may be the precursor of death. Experiments have shown that chlorate of potassium increases the contractility of the muscular coat of the vessels, and hence the indication for its use. To obtain the favorable results stated, the drug must be continued for a long time, and in severe cases increased in dose. The dose varies from two to ten grains in the twenty-four hours, according to the individual case. The author thinks that by analogy this treatment ought to be favorable in the diarrhœa of old age, in cholera, and in certain serous diarrhœas of hot countries.

J. B. R.

THE INFLUENCE OF BROMIDE AND IODIDE OF POTASSIUM ON GASTRIC DIGESTION.—Dr. Putzeys, after a series of experiments in artificial digestion, in which he substituted hydrobromic and hydriodic acids for hydrochloric acid, concludes (*Bull. de l'Acad. de Belgique*, 1877, xi. p. 106) that hydriodic acid, whatever its proportion in the digestive fluid, cannot replace hydrochloric acid, because its action is more feeble and slower. Moreover, he believes that the iodide and bromide of potassium will not be received with equal tolerance if they are ingested at the time of gastric activity; hence it is in every respect preferable to administer these salts, and especially the iodide, a half-hour or an

hour before meals, when the stomach is empty and its surface is covered with a layer of neutral or even alkaline mucus. J. B. R.

RESECTION OF THE INFRA-ORBITAL NERVE.—M. Tillaux (*Soc. de Chirurgie*; reported in *Bull. Gén. de Thérap.*, v. ii., 1877, p. 37) communicates a case of resection of the infra-orbital nerve at its entrance into the infra-orbital foramen in the floor of the orbit. The patient, a woman 31 years of age, began to suffer pains in the right upper molars when she was twenty years old. Soon after, a fetid discharge from the nose was noticed. The sinus was perforated after extraction of the first molar, and a tent was left in the opening; iodine was injected, and the patient finally cured. She continued to suffer, however, with frequent attacks of neuralgia. In 1873 the pain became constant, and the nasal discharge reappeared. The sinus was enlarged. The second molar was extracted, and the wound treated as before. After alternate neuralgia and rest, an abscess finally opened, and no pain was experienced for several years. In August, 1875, the pain reappeared. In May, 1876, she was brought to the Hôpital Lariboisière for operation. The pain, which at that time was intense, started from the infra-orbital point and radiated through the eyeball. It was accompanied by conjunctivitis and shedding of tears. M. Tillaux decided to lay bare the nerve in its infra-orbital groove, and to make the section just in front of the sphenopalatine ganglion. A horizontal incision was made in the lower eyelid, and at the internal extremity of this incision another, vertical, terminating at the ala nasi. Ligating then the infra-orbital nerve, the sclerotic was divided, the eyeball raised on a little spoon, and the roof of the infra-orbital groove was lifted with a gouge. The nerve thus laid bare was raised, and a piece a centimetre in length was cut out. Histological examination of the nerve showed hypertrophy, but no change. After this part of the operation the maxillary sinus was widely opened from in front, and was explored with the finger. Two osteophytes were found implanted on the anterior wall, which were removed. On the 18th of May the patient returned home cured. (Plates representing the instruments used accompany the report of M. Tillaux's case, and also an account of the discussion following it in the Société de Chirurgie.) x.

RADICAL CURE OF RETENTION OF URINE FROM ENLARGED PROSTATE.—E. Bottini (*Centralbl. f. Med.*, 1877, p. 519; from *Von Langenbeck's Archiv*) reviews his proposal, made some time ago, to remove the hypertrophied prostate by the galvano-cautery in cases where the former interferes with the passage of urine. He recommends that either the entire gland should be burned away or that simple division of the enlarged portion should be practised. The galvano-cautery used by Bottini resembles Mercier's prostatic catheter. It consists of two brass wires fastened to a staff and entirely insulated by a covering of ivory. Near the angle of the concave side is the cauterizing apparatus, a U-shaped piece of platinum two and a half centimetres (one inch) long, of which one limb is connected with the anterior wire of the instrument, the other with the posterior. As soon as the loop of the instrument can be moved about in the bladder, which should be partly full, it is to be brought against the hypertrophied part by a movement through an arc of 180°, and thus, surrounded as if by a hook, can be destroyed with the utmost precision without (as post-mortem examination has shown) disturbing the neighboring parts in the least.

The thermo-galvanic incisor is like a lithotripter of which the male blade is formed of a platinum knife. This is connected by a bit of copper to the staff, and glides in the glass groove of the female blade. The point of the instrument must be applied with its concavity pressing against the lobe to be divided, so that the latter is enclosed as in a hook. Neither the cauterization nor the cutting causes much pain; so that anæsthetics are rarely necessary. The bladder is usually emptied shortly after the operation, though strangury is ordinarily experienced. No bad effects are observed; even vesical catarrh has never been noted. The urine, however, is frequently slightly bloody for a short time. Cauterization is usually advisable in partial and not prominent enlargements both of the supra-collicular portion and the lobes of the prostate. Division is to be recommended in general and uniform enlargement of the gland, and also in very prominent intumescences. Among contra-indications are—1, inactivity of the detrusor; 2, abnormal condition of the urine; 3, coincident renal disease. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 27, 1877.

EDITORIAL.

THE JEFFERSON MEDICAL COL- LEGE HOSPITAL.

THE new hospital of the Jefferson Medical College, which has recently been thrown open for the reception of patients, is of brick, with Ohio stone trimmings, and stands on a lot about one hundred and fifteen feet by one hundred and twenty-five feet, having a small yard to the east. It consists of two wings placed at right angles, like the letter L, each having five stories and a basement, while embraced within the angle is the two-story amphitheatre, which extends as far as the ends of the wings. This arrangement makes a rectangular building, on three sides of which are streets, while the fourth side faces the small yard before mentioned. Through the arms of the L runs the corridor, opening on one side into the amphitheatre, capable of seating six hundred students, and into the various waiting rooms, etc., on the other.

The main stairway, of iron, is placed at the junction of the two wings, enclosing, as it goes upward, the opening in which runs the steam elevator, surrounded by a wire grating. The landings as well as the stairway are fire-proof, but for additional safety there are placed on each platform two water-plugs, to which sections of hose are constantly attached for immediate use.

In the basement, under the clinic room, are the engine- and boiler-rooms, and the bins for coal and wood, while beneath the wings are the steam kitchen, china-pantry, post-mortem room, and the laundry department, comprising a disinfecting room, washing, steam-drying, and ironing rooms. In proximity to the last department is the

clothes shute of sheet iron, which extends to the fifth story, and has a door opening upon each of the various floors, in order that the soiled bedding and clothing may be dropped immediately to the basement.

The first floor, exclusive of the amphitheatre, is occupied by the apothecary-shop, the officers' dining and sitting rooms, the patients' waiting room, and the examining rooms of the medical, surgical, and other dispensary staffs. This distribution is exceedingly well adapted to the requirements, because the applicants for treatment are distributed to the dispensary chiefs, who examine and prescribe, or send them across the hall into the anteroom leading to the clinical lecture amphitheatre.

On the second floor are located the special wards for eye and gynæcological cases, the receiving ward, the septic ward, and the hospital operating room for cases not presented to the class. The superintendent's office, the students' entrances to the seats of the lecture room, and the students' water-closets are also on this story. On the two succeeding stories (third and fourth) are the main wards, each one occupying a wing, making in all four large airy rooms (forty feet by seventy feet, and thirty-five feet by sixty-five feet), having windows on three sides, because, as stated above, the amphitheatre is but two stories high. The buildings surrounding the hospital are low, and therefore these wards have abundant light and air. Opening into the wards are nurses' chambers, baths, and water-closets; and from the same landings entries lead to the special-diet kitchens. Ascending one flight higher, we arrive at the private ward, which consists of a series of ten appropriately furnished chambers opening into a central entry, like the hall of a hotel. The apartments of the matron and resident physicians are also on this floor. Above is a loft, in which is a large tank kept filled with water, to give abundant supply at all times, and to be utilized in time of fire.

This gives a general idea of the location of rooms and halls, which are connected by electric annunciators, speaking-tubes, and dumb-waiters; while a large number of closets and store-rooms furnish abundant opportunity for packing away the crockery, bed-clothing, and linen required in such an institution.

Near the floors and ceilings of all the wards are registers opening into the vitiated-air flues, which descend to the basement and pass under the cellar floor to terminate in a shaft or chimney ninety-eight feet high. A constant upward current is established in this shaft by the heated air and smoke from the furnaces supplying steam to the elevator, laundry, and heating-coils. In each long ward there are also two open fire-places, to act as additional purifiers of the air. Fresh air is obtained by openings which are beneath the windows and behind the steam heating-coils; also by ducts opening from the street into the basement, where it is heated, and whence it is driven into the various parts of the building through flues and registers as in our dwelling-houses. Additional heat is obtained by open steam-coils placed in every room.

The floors, with the exception of the iron staircase and landings, which are covered with rubber to prevent noise, are made of hard pine and oiled. The steam- and water-pipes are left exposed to view throughout the building, in order that leaks may be easily discovered.

Pay patients are charged one dollar per day in the wards, and two dollars or more, according to accommodations, in the private rooms.

The opportunity here for clinical instruction will be excellent, since the lecturers have the use of the old college dispensary service as well as of the patients in the wards. During the winter session the clinics will be held by the faculty, to illustrate their didactic lectures, while the hospital staff are to lecture during the re-

mainder of the year. In this way a daily clinic will be held throughout the entire winter and summer sessions.

THE success of the new plan of teaching at the University is all that could be desired. There are one hundred and thirty first-course students entered for the three years; and the general paying class is as large as it was last year. Even if there should be no increase in the number of yearly applicants, which is highly improbable, when the new system is thoroughly established there will be nearly four hundred students ($130 \times 3 = 390$). The character of the class has much improved, the average intelligence and education of the new men being notably superior. Its habitat, so to speak, is also changed. We are very sorry to find a great reduction in the number of students from the South. The class from Ohio and its sister States is said to be increased. The home States have done very well.

LEADING ARTICLES.

MEDICINE IN TURKEY.

THE following extracts from the recent unpublished thesis by Dr. Yerwent Simon Kludgian, of Tocat, Turkey, who graduated at the University of Pennsylvania last spring, seem of sufficient interest at the present time to warrant their being laid before the readers of the *Times*.

The study of medicine flourished among the ancient Arabs, and some of our most remarkable inventions trace their origin to the ingenuity of that intelligent nation, which claims Hippocrates as one of her sons, giving him the name of Sheed, and honors the father of philosophy—Plato—by a mastership in the medical profession and the name Eflatoon.

The great fabulist Æsop also is numbered by Turkish writers as among the chief of the physicians of Arabia, by the name of Locman, to whom the extravagance of the Oriental imagination attributes wonderful and miraculous cures, claiming that this "Æolia the accomplished" suc-

ceeded in finding the powder of immortality.

In his old age, wishing to communicate the secret to his disciples, he gathered them together on the bank of a river, where he ordered one of them to thrust a dagger to his heart, while to another one he intrusted the life-powder, ordering him to put it to his mouth as soon as he was wounded, expecting to show that the mortal wound would have no more power than a mere incision.

The master was stabbed, but the miserable wretch that had charge of the powder, wishing to pass to his teacher's place, instead of putting the powder to the doctor's mouth, tried to swallow it himself, while his instructor was bleeding to death. But, the "Almighty Allah" not being willing to impart this privilege of immortality to men, the wind blew off the powder from the paper, and the waters carried it away.

So Locman died a victim to his audacity, and the students hung the traitor.

The Turkish authorities claim that all that exists now in medical knowledge is the remains of the Locmanian teachings, whose books the Giaour Franks (European infidels) have secured and translated into their languages, and are thereby farther advanced in the healing art than the descendants of Locman or their successors the Turks.

The spirit of Mohammedanism is to-day the same as when the Kalif sent orders to destroy the library of Alexandria, saying, "If books therein are in accordance with the 'Korani-Sherif,' they are useless; if contrary to the Holy Writings, they are deleterious: in one way or the other, burn them."

By its religious principles of "Namehram" and "Kadar," Islamism has done no little harm to the healing art,—by the first prohibiting male physicians from attending female patients, and by the second teaching that everything occurs to man by the order of Heaven, and that it is not right to meddle with the decrees of fate by trying to cure the sick.

However, the shrewd prophet decreed that Namehram might be overlooked in instances of emergency, and that medicine also as well as the diseases were created by the same Allah, so that while on the one hand the regular study of medicine declined, practitioners never decreased in number.

Medicine became a hereditary property in families, who taught to their descendants what they had learned from their ancestors as a legend.

Superstition and ignorance also being mixed with this traditional education, the profession declined to the lowest degradation. Even now it is not uncommon to meet with families of physicians and whole tribes of oculists and surgeons.

Let us extend a glance over their ground of study, to see how far their knowledge extends at the present time in the seven recognized fundamental branches of medicine.

Anatomy.—Physicians, surgeons, oculists, and obstetricians have almost none or a very obscure knowledge upon the anatomical relations of parts with which they have to deal. A physician of wide practice in my neighborhood supposed the lungs to lie at the left and the liver at the right side of the thoracic cavity.

One of the "eye-openers," famous for his learning, in an elaborate discourse declared the eye was a sea divided into seven departments, receiving its supply of water from the liver.

The Mohammedan clergy who study the Koran prohibit the people from making the slightest incision upon a human corpse.

Hence *post-mortem* and dissection are not practised among the Mohammedans. I am told that even the students of the military school of medicine in Constantinople are taught anatomy without that practical knowledge which comes from dissection.

Neither *physiology* nor *chemistry* is known to the common practitioners. They are ignorant of the chemical actions and relations of drugs except so far as they are acquainted with them from accident.

The detection of poisons by chemical analysis in criminal cases is entirely unknown among them.

There is not a single establishment to manufacture medicines of chemical product in the country. They are dependent upon foreign sources.

Materia Medica.—In this department of medicine the practitioners have improved considerably. In case of disease you see the patient visiting many physicians in turn; you hear many strange names of remedies; among these articles used as medicine (excluding the few official ones native to the country and to here)

are several kinds of herbs, clays, cobwebs, the blood of white and black hens, freshly-killed pigeons, the skin of recently-killed sheep, the eggs of turtle, the dung of wolves, and dog's manure.

I know a woman who was ordered to take medicine, and one of the ingredients was dog's white dung, which she took very faithfully. Such are the remedies at the common practitioner's hand.

But at the military school of medicine in Constantinople they are teaching now chemistry, *materia medica*, and pharmacy better than any other branches of the profession.

Surgery is in the hands of three classes of people,—namely, butchers, farriers, and barbers. The first two classes, who manipulate animal flesh in their daily occupation, think also to become acquainted with the human organism. So they perform operations, and treat cases in a rough manner: when they make any amputation, which is fortunately rare, they apply to the cut surface burning grease, afterwards some kind of plaster.

To incised, contused, lacerated, and punctured wounds they first apply an abundance of common salt, or wrap it with a piece of muslin which is saturated with a mixture of salt and honey; after the hemorrhage has stopped they wash it with alcohol and apply the plaster.

Fractures of the spine or of the limbs, besides other measures, are dressed by wrapping with the skin of a newly-killed sheep.

In the provinces of Central Turkey, the wild Koords, not having the least idea of anatomy, and not imagining even the existence of such a knowledge,—men who, in fact, have never seen perhaps any kind of a book in their lives,—practise surgery, and perform the operation of lithotomy, having no other instruments but a rude wooden spoon and a dull razor.

On the Turko-Persian borders there live whole families of oculists, certain members of which travel all about the country to "open eyes," operating with the rudest instruments, such as knives, hooks, and rusty iron probes; and the rougher a practitioner is, the greater is his fame as an able master.

In spite of all this quackery there are hundreds and thousands left with their affections without any medical adviser.

Obstetrics.—*Accoucheurs* are females

almost without exception, generally good-for-nothing jades, having as fair an education as the surgeons possess, and besides they have the grossest empiricism.

In cases of somewhat difficult labor they confound all presentations together. Once in a country place (where I have been) a woman was in difficult labor. Several midwives did their best, without any good result (in fact, none of them had ever seen the forceps). Fortunately, the woman's brother-in-law, who was a shepherd by trade, being at home, they called him into the room, as though he had gained much more knowledge about midwifery, by attending the sheep of his flock, than themselves. As soon as he saw the case he stripped up his sleeves and introduced the rough, hard, and dirty hands into the internal organs and extracted the child.

I do not know how much damage he did, nor how much was done before; but the poor woman died within a few hours.

A Turkish midwife will never touch the *foetus* until it is fully born, even if the poor child lingers two or three hours in the external parts.

Nearly the whole period of the second stage of labor in Turkey the woman is kept on her feet, and when the pain comes on, two women, holding her arms, walk round the room.

In some places the woman is delivered when she is kneeling, the midwife then being in front of her; in other places she is delivered while leaning over, supported by her arms; then the midwife stays to take the child from behind her; while others have adopted the European plan.

To take the woman to a Turkish bath for a few hours about the approach of labor is almost a universal custom throughout the country. This is, of course, for the relaxation of the system.

If the child is born in defect of vitality from any cause, before they cut the cord they put the placenta near to an open fire until the child shows signs of life. It is a general custom to salt the newly-born infant, as a piece of meat, before they wash it. As soon as the infant is washed and prepared, it is squeezed into such a tight bandage that movement is impossible. This is because the child is coming from a tight place, and must not be let loose till it gets used to liberty; and this training takes considerable time.

The mother is not allowed to drink

water till at least the third day after delivery, though scorching with intense thirst, the divine sentence being "sorrow" in "bringing forth children;" but the torments of ignorance are innumerable, and the poor Devil—"Genperec"—is very often unreasonably charged with plugging the passages of menstruation or parturition, and enchanter's produce sterility and other disturbances of the various functions of male and female genital organs.

Medicine Proper.—From the capital down to the smallest village, the barbers, such as hardly know how to shave the chins of Christians and the heads of Islam neighbors, pretend to cure chills and piles, and are expected by the people to know how to bleed, drug, and nurse the sick.

A great many are killed by these genuine Sangrados through bleeding. Basins of human blood are shed every year, in the month of May, since every man ought to be bled once a year, and that month is the most convenient season for enjoying this pleasure as well as an annual purgative.

Cathartics play no inferior part to blood-letting, and as, fortunately, a good many drugs belonging to the category are the products of the country,—such as scammonium, croton tiglium, castor seeds, rhubarb, colocynth, etc.,—there is but little trouble to get them in abundance.

The doctor, after bleeding his patient a score of ounces, mixes a splendid "sherbet" for him, and in proportion as the stuff acts so much the better and so much the more valuable is the drug.

Out of hundreds of cases I mention the case of a gentleman who gave to his sick servant a pretty big lump of gamboge—weighing about a drachm—to swallow as a purgative, and the poor fellow's entrails were actually purged out, and the man himself wiped out from among the living.

It is easy to imagine what a curse the remedial agents are in the hands of such practitioners. I have known another case where the physician prescribed *wolf's dung mixed with curdled milk*, to be taken internally for the cure of enlarged spleen, and the patient most faithfully took the medicine. To administer the cooled urine of a healthy person in cases of jaundice and intermittent fever is not an uncommon thing.

Many in the country believe that vaccination existed in Armenia, in the city of Moosh, now under the Turkish govern-

ment, before it was introduced to the profession as a new discovery. I do not know how far the fact is known or credited, but it is an unquestionable fact that before vaccination was introduced into the country from any foreign source it was known in the above-named city.

If you meet men and women brought up in that city and inquire of them, "Why have you been vaccinated, and why have you vaccinated also your offspring?" the answer is, "Because my father and grandfather were vaccinated, and the latter used to tell us that his father and grandfather were vaccinated. I cannot tell its origin here, but this is the custom in my native city for generations past and present."

Perhaps it will be asked, if it was a custom how it did not prevail among the surrounding towns. It is astonishing to see that cities, towns, even villages a few hours' distance from each other, have almost entirely different customs, habits, modes of living and dressing, which have been kept up for hundreds of years without having mingled with others. Probably this is the case with the vaccination of children. Parents themselves generally vaccinate their children in that city with fresh lymph taken from a human being. They do not know about the vaccine matter of a cow, or to take lymph from it for vaccination.

Another very interesting subject pertinent to our inquiry is that of the *superstitions* regarding medicine. The fertile and imaginative Oriental mind, though always searching for the cause of everything, is easily settled and dazzled by a mysterious description high above its understanding. This it delights in believing.

It is somewhat amusing to see a number of inquirers surrounding a man whom they think to be a savant, and asking him such questions as in fact nobody can answer satisfactorily, but when the man of science declares that it is the "Kelam-u-kadim," that is, the eternal decree, every mind settles down at once and every objection stops without further investigation.

As this people see that certain maladies seem to have a connection with celestial phenomena, such as attacks of epilepsy and relapses of mental derangement and certain skin diseases at the time of full or new moon, and of nervous headaches in the days of the dog-star, they readily explain their troubles as the effects of the orbs of heaven or some other mysterious

power, or good and bad spirits, imps, ghosts, and devils.

Many cases that the doctor cannot cure he attributes to a higher power, and advises the patient to call a certain Emir or Hoja—a Mohammedan ecclesiastic—to pray or write charms for him, or to cast the devils out of him.

This belief has generated another system of medicine,—the spirit-cure; its practitioners prescribing other means of relief, such as certain localities, a tree, a fountain, a chapel, the tomb of a prophet or saint, images and relics of the Virgin, etc., etc.

There are different Emirs for the cure of various diseases, who pray, read, write, blow, spit, howl, and growl, and gather the demons to compel them to leave the patient or to find means for his cure.

Erysipelas, with some other oedematous diseases, is regarded as the result of the stroke of an angry spirit, and there are special men and formulæ of prayers for its cure. The European and American "infidel" physicians say that certain medicines will expel the devil better than anything else.

An electro-magnetic machine was used with favorable result in a case of mental derangement, making the patient believe that every shock which he received from that diabolic "thing" indicated the expulsion of one of his devils.

In such a condition was medicine recently all through Turkey, and so is it even now to a very great extent; but the father of the present Sultan,—the late Sultan Abdul Medjid Khan,—among many other reformatory measures, established a military school of medicine in Constantinople, and this school since its opening has turned out a number of tolerably well educated physicians; and, as the government duly recognizes the diplomas of American and European colleges, many of our young men have gone abroad to Europe and to this country and studied medicine; so much so that a few years ago the legislative power passed a law (which, however, is not enforced) that nobody should practise medicine unless he possessed the diploma of a regular medical school.

EXTIRPATION OF THE KIDNEY.—Dr. C. Langenbuch reports (*Berl. Klin. Wochenschrift*, No. 24, 1877) a case of successful extirpation of the kidney.

CORRESPONDENCE.

LONDON LETTER.

THE medical world at present is almost absolutely quiescent. The meeting of the British Medical Association is the last flare-up before temporary extinction of medical life. All who are not kept in town by stringent reasons are off and away. Perhaps not quite so many to the Continent as before, finding out that if a holiday is to be of any use as a preparation for a coming spell of protracted toil, it must be a holiday really, and not merely another form of labor. In many instances the holiday is the hardest part of the whole year's work, except that the labor involves largely the muscles, and not the brain solely. Accustomed as medical men are to advise others, it has been asserted of them that they neither counsel themselves wisely nor accept advice from others. This may be true to some extent, or it may be but one of the many calumnies uttered against the profession. As regards their choice of a holiday and how to spend it judiciously, certainly they are manifesting a better appreciation of what a holiday ought to be than they exhibited a few years ago.

There is a good deal to be said about a holiday. It may be spent profitably in several ways. It may be made a season of leisure, of useful quietude; but, in addition to this, it may be made useful in another way. It is well for a medical man to be personally acquainted with the various health-resorts to which he sends his patients. Such familiarity not only gives the patients greater confidence in the advice tendered, but tends to raise their appreciation of the general culture of the medical man who has made himself thus personally acquainted with the different health-resorts. This is really an excellent plan of procedure, and one to be commended. For by so doing the possibility of selecting an unsuitable place for the patient is greatly reduced. On the other hand, a holiday may be utilized in another way. A physician in large practice, especially if he be connected with the diseases of the respiratory organs, finds it profitable, if not also excusable, to send his patients, or at least most of them, to some particular place, say the Tyrol, and advocates this plan on the ground that he prefers it himself. He goes there himself, perhaps conveys some of his most interesting cases on the journey, and when he arrives at his destination he finds himself in the midst of a little colony of his own patients; and thus, when taking his constitutional strolls, he can do a little visiting,—which is rather amusement than serious work, and tends to relieve the tedium of his days,—and certainly secures agreeable society, not only in the day amusements and engagements, but for the evenings, which otherwise would hang heavy on his hands and prove wearisome. Further, these various patients

talk him over, approve of him, and strengthen and corroborate each other's confidence in this *rara avis* of medicine. It does not by any means follow that because this is done by several astute men there is any immorality in so doing, or that the physician is not consulting the best interests of his patients while attending sedulously to his own. But it furnishes material for gossip and for innuendo on the part of less fortunate or less ingenious medical brethren.

The chief medical fact of the present quiet time is the acceptance by Dr. J. Matthews Duncan, of Edinburgh, of the lectureship of obstetrics at St. Bartholomew's Hospital. This post was recently vacated by Dr. Greenhalgh, a man of position and renown. The occupants of this position have, of recent years at least, been almost invariably men of capacity and holding a good professional status. When this vacancy occurred, it became a matter of moment to the hospital and to the medical school to see that a proper and fitting occupant should be secured. Dr. Clement Godson, the present assistant obstetric physician, is an able, enterprising, popular, and gentlemanly man,—just the man for the place but for one thing, viz., his age. Unfortunately, or perhaps fortunately in some respects, he was too young to occupy so prominent and onerous a position; and none felt this more clearly than himself. Bartholomew's had no man of its own fostering, no egg out of its own basket, that could well be proposed to fill the vacancy. Bartholomew's is a very powerful place, with far-reaching influence, and must be spoken about cautiously. The advice of the son of Sirach about speaking evil of rich men, even in the retirement of one's chamber, must be borne in mind even by an anonymous writer to a foreign periodical when speaking of St. Bart's. It is necessary to be guarded, then; but it is said openly enough that the present treasurer of this ancient, well-endowed, and really important institution has spoken out freely and frankly as to the policy of election of the staff as long as he holds the reins. Sir Sydney Waterlow, ex-Lord-Mayor of London, is a man of his word, and belongs to a family who are very earnest and thorough in carrying out what they have once determined on. He has recently been appointed as treasurer to the hospital, a position of much authority, perhaps of ruling authority indeed. He is like the head of a Government department; he is absolute when and while in office, and is the spirit of the governing committee. This office is no sinecure by any means; and a house is provided for the treasurer on the spot, so that he may discharge his duties as conveniently as may be. If the responsibility is great, the power given by the position is equally great; and it is no secret that Sir Sydney has put his foot down solidly, that the active canvassing hitherto practised, and which is a very costly affair, shall be so modi-

fied in future that it shall be within the compass of men of moderate means, and that the vacancies in the staff shall be filled as they occur, by the very ablest men who can be secured, and that the possession or command of considerable means shall no longer be thus a *sine quâ non*.

Such a line of procedure on the part of the new treasurer does not mean censure of what has hitherto gone on, but merely that the policy of securing talent from all ranks, now so prevalent, shall be tried and worked there as elsewhere. The same view is held by a large number of influential persons connected with the hospital, both lay governors and members of the medical staff; and there is no doubt a change came over the spirit of the dream of the ancient institution in Smithfield, which was growing conservative and perhaps a little sleepy in its solid prosperity and its long existence. Consequently, no surprise was felt when it was announced that overtures had been made to Dr. Matthews Duncan, of Edinburgh, to take the vacant post, and that these overtures had met with consideration instead of immediate rejection. That the offer should be made was the most readily intelligible part of the whole affair. It was quite consistent with the policy of the new régime as to appointments; and if such changes were being made to secure the best man for the junior appointments, it was abundantly clear that in such an important matter as the senior post no means would be neglected to see that the place had a worthy occupant, one who would do credit to the place.

It was felt by all connected with the hospital that Dr. Matthews Duncan was the man, if he would but come. But the position he held in Edinburgh was so good, and his practice such an extensive one, that little hope was entertained for a time that he would accept the place. At last he has decided to make the change, and leave the Northern metropolis, where he had long been so conspicuous an object, and move southwards. Dr. Duncan is no ordinary man. A pupil and whilom assistant of the late Sir James Simpson, he started in Edinburgh, and, as a decided coolness developed betwixt him and his old master, rumor seized on the subject and gave various explanations, the one most extensively credited being jealousy on the part of the teacher towards his ablest pupil and assistant. Whether this was founded upon fact or not, certain it is there was a certain antagonism betwixt the great obstetrician and his junior. Edinburgh is a place where personal feelings run strong; and certainly Simpson was not above active hatreds towards his colleagues and collaborators. Dr. Duncan worked steadily away, had a class to which he lectured on obstetrics, and became an obstetric physician to the Edinburgh Royal Infirmary. It was the rule among students to take Duncan's summer course previous to Simpson's larger winter

course of lectures on obstetrics; and Duncan's clear, forcible exposition prepared the way for Simpson's more extended and elaborate lectures, delivered in silvery speech and with a winning persuasiveness which was irresistible, at least for a time.

Dr. Duncan has published several works connected with his special department, which have attained world-wide celebrity, and he has been elected a member of many foreign societies. Consequently, when Sir James Simpson died, it was felt by many people that the chair then vacant would be most worthily filled by his old pupil. The election lay with the town council; and Simpson, as said in a recent letter, was the most personally popular man in Scotland. His nephew, the present professor, had been carefully educated and trained by his uncle as his probable successor, and was ultimately chosen by the council to fill the post. It is no part of a correspondent's business to criticise appointments made by responsible bodies and individuals, but it is no secret that this overlooking of Duncan's claims was severely commented upon both by the medical press of this country and the lay papers of Scotland. He himself said nothing, but went on his way. Nevertheless, other people felt he had not been handsomely treated,—to put it very euphemistically.

But when it began to be rumored in Edinburgh that overtures had been made to Dr. Duncan to accept the important teaching post of St. Bartholomew's, at first incredulity prevailed. No doubt it was a severe trial to the self-pride of the people of modern Athens that Lister should just have been tempted away, and that now a similar attempt was being made to attract Matthews Duncan, the two men with the highest foreign reputation in Edinburgh.

But, whatever Dr. Duncan's motives, he has left his native land, though not by any means a young man, being fifty at least, for he graduated in Aberdeen in 1846. His appointment is a very popular one, and nothing is heard but approval of the step taken by Bartholomew's, and good wishes for the latest arrival from North Britain.

The tendency of young Scotchmen to hold South is well known, and is the subject of many a well-worn joke. The return of Lister to England was intelligible to many; for the austere ways of Caledonia are not acceptable to every one. But this last move was a more unwonted one. Doubtless Syme had come to London after his reputation was made, and left it again after a brief stay. Robert Liston, too, had moved southwards, and remained. But a distinct interval has elapsed since these migrations; and Dr. Duncan's action seems rather the inauguration of a new state of affairs than a return to anything pre-existing.

The tendency of a large metropolis to attract people is apparently as certain as the

law of physics by which large bodies attract small ones; and it seems that now this tendency is becoming more marked. Probably the readiness with which the metropolis can be reached has a good deal to do with this. Previous to the introduction of railways there were many provincial centres in England, as Birmingham, Leeds, Bristol, Norwich, Newcastle, etc., which held a locally metropolitan position, and towards which certain areas centred, and first-rate men found it worth their while to take up a permanent position in these towns, where they rivalled the best men of London, as the Heys and Teales of Leeds, for instance. But now matters are changing very considerably, and the tendency is to draw men back again from the provinces to their old London school if necessary. Thus, University College Hospital recently recalled Dr. Fred. Roberts from Liverpool to fill a vacant assistant physicianship, and still later, Dr. John Williams, from Swansea, as assistant obstetric physician; and the wisdom of such action has never been called in question in either instance. One curious thing is that this movement towards the metropolis, and the awakening of certain institutions to the necessity of securing the best talent they can attract, is synchronous with a strong feeling in favor of decentralization manifested in the provinces. Thus, Manchester is working hard to get a University in connection with Owen's College. Edinburgh must feel this centripetal current more strongly than any other place, for her University turns out yearly a larger number of really good men than can possibly find a competency within her boundaries, while the enterprise and vigor of the Scotch are well known. Consequently, the needs of certain London hospitals and the attractions of metropolitan practice will constitute an allurements of a very potent character; and it is not easy to see how such a force can be counterbalanced. But it behooves those who love Edinburgh well—and their number is legion—to see that a certain proportion of those whom even she cannot easily afford to lose are not enticed southwards. In neither of the above instances has the want of success in Edinburgh been a factor in determining the choice: it is the more potent attraction of London. Lister has exchanged one professorship for another. Matthews Duncan, not having secured a professorship in the University of Edinburgh, now occupies the first lectureship in England, of which he is fully worthy.

Perhaps many of your readers may be interested in knowing something about the Contagious Diseases Act (Human), which was passed a few years ago (in 1864), improved in 1866, and again in 1869. The object of this act was the arrest of the spread of venereal disease in certain garrison towns of England and Ireland, which was working such havoc among the men of the military and naval services. The proportion of men in hospital

with these diseases during the year often extended a long way towards the entire number of the force,—of course by repeated admissions of certain individuals. In fact, the evil grew to such a pitch that legislative interference was urgently demanded. A furious battle has recently been waged betwixt the officials who have to see to the working of this act, supported by the bulk of the profession, and a sentimental party, chiefly living in the provinces and centring in Manchester, who have a small number of the profession on their side. This party at one time flooded the country with pamphlets anent these acts and their workings, and the most monstrous concoctions were circulated as representations of the actual facts. The subject was not one, apparently, in which women could very well interest themselves; but such impression is quite erroneous. Headed by a clergyman's wife, a large body of ladies have marched through and through the unsavory subject with a courage and a self-devotion which can but excite one's admiration. It is almost needless to say that their conclusions are diametrically opposed and absolutely contradictory to the published returns as to the results achieved. One strong point these ladies took up,—and they were quite right about their sentiments if their facts had been but "facts,"—and that was, any undue and unwarrantable intrusion upon a woman's privacy and regard for her person. It was alleged that these unhappy creatures were regularly and systematically outraged by ordinary police-constables, etc., and that any woman was liable to be apprehended by a policeman, taken to a lock-up, and there summarily exposed to the degradation of a personal examination of the most trying character. It is needless to say that the police have acted with much circumspection, which entitles them to the greatest praise; and in the very few instances where a mistake has been asserted to have been made, the suspected parties have not come out of the ordeal without greatly justifying the procedures of the police-constables. A pamphlet on the subject has just come into my hands, by Mr. Fred. Lowndes, surgeon to the Liverpool Lock Hospital, advocating the extension of this act to the great maritime town of Liverpool. Mr. Lowndes has taken the trouble to visit garrison towns where the act is in operation, in order to personally ascertain the results. To him the working has appeared most satisfactory, and his evidence upon one point is very conclusive, viz., the treatment of the unfortunate women who are affected by the working of this act. In the waiting-rooms the first object observed is a large notice explaining fully how each woman may obtain her release from the examination by applying to the visiting surgeon, who, if satisfied by inquiry that she has abandoned her calling, can direct that she be released from further periodical examination. The arrangements for the ex-

amination of the women are admirable, clean, comfortable, and as little trying as such a thing can be made by consideration and forethought. "The rule which permits no one to be present except the nurse is absolute, and I was informed previously that I could not witness the examinations, at which, knowing the importance of this rule, I did not expect to be present." The natural objections of the poor creatures to be examined at all have been overcome by such treatment, and there is now little difficulty in procuring their regular attendance. What a mercy these acts are to the poor creatures themselves only those acquainted with their working can tell. Whether it is desirable that human morality should be fenced in by syphilis and be strengthened in its virtuous resolves by gonorrhœa, as the sentimental party of parsons and women assert, may be a matter for dispute; but any one who has had any experience in the out-patient department of hospitals cannot but pity the innocent wives and children who there come under notice as the victims of constitutional syphilis. If the consequences of their libidinousness could be restricted to the men themselves, the arguments might be valid; but surely even the opponents of the act must have some compassion on these unoffending sufferers. Mr. Lowndes's experience of the working of the act makes him a still stauncher advocate of the extension of its working to the great port of Liverpool.

The reflex disturbances of the stomach are now being more generally recognized and appreciated than has hitherto been the case. For long the vomiting of pregnancy has been thoroughly understood, and the vomiting occasioned by a blow upon the testicles, or a calculus in the kidney, has also become recognized. But the relations of the stomach to conditions of the ovaries have yet to be investigated and appreciated. How great a proportion of cases of dyspepsia in women is allied with disturbances of the reproductive system only those know who have inquired. They will be found to constitute a very heavy percentage: indeed, it will soon become apparent enough to any clinical observer that the great proportion are so associated, and that it is futile to treat the stomach without also treating the cause of the disturbance. Having first eliminated any causes of reflex disturbance, then, and then only, may the practitioner concentrate his attention upon the stomach. The following case will illustrate this well. Going round my beds with the house-surgeon, one day, a new arrival was noted and inquired after. She was a pallid, anæmic girl of twenty-three, with a lack-lustre eye and a languid gait. She was a "stomach" case, the house-surgeon said, with a long history of persistent vomiting and retching. He had quite properly given an effervescent mixture with some hydrocyanic acid, which had afforded some relief. Ex-

pressing the conviction that the case was not primarily a gastric one, but dependent upon ovarian irritation acting reflexly upon the stomach, the patient was examined. There was a history of menorrhagia, not very bad, combined with persistent leucorrhœa. When the left ovary was pressed, sharp pain was elicited and the patient felt faint and "queer." The effects upon the face were very noticeable. A small blister over the left ovary was ordered, and the medicine changed to a mixture of sulphate of magnesia (ʒi) and bromide of potassium (ʒi), in inf. gentian (ʒi), three times a day. The effects were very marked: the vomiting and retching ceased, and only slight nausea was experienced occasionally, but this soon ceased too. In ten days the girl was discharged feeling well, and certainly relieved for the time, if not permanently cured. Such is the real pathology and the line of treatment to be adopted in a large number of cases of gastric disorder in girls and young women, which linger on for months, cause the friends the greatest anxiety, exhaust the patients themselves, and frequently materially injure the reputation of the doctor.

REVIEWS AND BOOK NOTICES.

A TREATISE ON THE PATHOLOGY OF THE URINE, INCLUDING A COMPLETE GUIDE TO ITS ANALYSIS. By J. L. W. THUDICHUM, M.D. Second Edition. Lindsay & Blakiston, Philadelphia, 1877.

The treatise of Dr. Thudichum is well known as one of the medical classics of the language, and in completeness, thoroughness, and originality the volume before us has few rivals in any branch of our science. These very qualities, however, in a measure unfit it for the use of the general medical practitioner, who wants in a short space and a clear manner a discussion of only such urinary matters as he can compass and use in his daily applications of science. For the specialist, for the physiological chemist, for the physiologist, the volume of Dr. Thudichum is a *sine quâ non*, and to such the new edition must be a most welcome guest. With them we leave it, confident that the new edition will maintain, if it do not increase, the well-earned renown of its author.

GLEANINGS FROM EXCHANGES.

READHESION OF A SEPARATED PORTION OF THE BODY (*New York Medical Journal*, October, 1877).—A man, 50 years of age, while drunk, fell, and remained the entire night without help. Falling on a curbstone, the cartilaginous portion of the nose was cut transversely at its margin and entirely separated, with the exception of a few slight shreds of skin. The separated portion was

quite cold, and appeared to be dead. Dr. Gillebert Dheurcourt saw the patient in the morning, and washed the wound with cold water, readjusted the separated portion, secured it with five stitches, and applied pieces of muslin dipped in collodion. The pieces overlapped each other like the shingles on a roof, leaving the point of the nose free. The next day there was some swelling of the parts, but the apex of the nose appeared warm and rose-colored. Two days later the swelling began to subside, and seven days later the stitches were removed. Fourteen days after the operation there was complete restitution of the nose. A linear cicatrix remained, and there was considerable loss of sensibility in the parts which had been separated.

CATARRHAL LARYNGITIS (*New York Medical Journal*, October, 1877).—In the course of some clinical remarks on catarrhal laryngitis, Whipple states that the disease may assume either a mild or an intense form, and the one may pass rapidly into the other. It may be traced to a variety of causes, such as—1. Local irritants acting on the larynx; for example, cold air, dust, loud screaming, etc., which causes friction by the air being forcibly driven through the glottis, and by the increase in the number of vibrations of the vocal cords in a given time. 2. Chilling of the skin; e.g., by leaving off warm clothing. 3. Catarrh may extend from neighboring organs. Each of these classes is then taken up in order and fully discussed. Having alluded to the prominent causes of the affection, the more obvious means at our disposal for its prevention are reviewed, and one or two points in the treatment of the early stages of the affection are briefly touched upon. Confinement in one apartment, with the air rendered moist and warm, is of the first importance, as soon as the first "brassy" cough is heard. Often no further treatment is demanded. In more urgent cases further treatment may be necessary. Hot poultices to the neck have, in his experience, produced excellent results; the poultices may be made of linseed-meal simply, or of linseed and mustard in the proportion of about one part of the latter to eleven of the former. Latterly he has used a poultice made of oatmeal and vinegar, which he was induced to try, in order to combine the warmth of the external application with the sedative action of the acetic acid on the laryngeal mucous membrane. The results have been extremely satisfactory. The throat being enveloped by the poultice, the child of necessity inhales the vapor charged with acetic acid which arises from it, and there is no need for the use of an inhaler, which usually frightens the child. Should the pulse be frequent, the skin hot and dry, and other symptoms of fever be present, a purge composed of calomel and rhubarb may be advantageously administered together with a mixture composed of diaphoretics, depress

ants, or diuretics. If the inflammation be not thus subdued, subsequent treatment must be adapted to the exigencies of the case.

STARVATION IN THE TREATMENT OF ACUTE ARTICULAR RHEUMATISM (*The Canadian Journal of Medical Science*, September, 1877).—Dr. Casey A. Wood recommends earnestly the employment of starvation as a therapeutic means in those cases of acute rheumatism which have resisted treatment by the ordinary methods. He reports five cases, and says he has notes of twelve more treated in this way with remarkable success. He advises the use of an antimonial emetic in almost every case. No food whatever should be taken after the emetic has operated for at least three days (longer if necessary), or until the pain in the joints has considerably subsided. Water or (if the patient prefer it) lemonade is allowed in small and repeated quantities, but starvation is to be regarded as a *sine qua non*. The return to the usual amount of food should be very gradual, and everything eaten during this time should be very digestible. Opium and colchicum are given for the temporary relief of pain, and should be discontinued when the desired effect is accomplished. The mixture of acetate of potash will be found useful, but it is not an essential part of the treatment. A pleasing feature of this method will be found in the rare occurrence of cardiac trouble. The treatment by starvation, if followed according to the rules laid down, will be found to realize all that has been claimed for it,—a simple reliable remedy for a disease that has long baffled the physician's skill,—and the frequency with which rheumatism occurs will give every one a chance of trying its efficacy.

VITALIZED PHOSPHORUS COMPOUNDS (*The Nashville Journal of Medicine and Surgery*, September, 1877).—Dr. Charles G. Polk calls attention to the therapeutic value in pulmonary disease of those compounds of phosphorus which he has isolated under the name of "Kephaline," and which contains only the brain hypophosphites. He gives three cases illustrative of their value, and claims that they act by being absorbed unchanged into the blood, and supplying easily and quickly the deficiency which exists in these diseases.

THE PREVENTIVE TREATMENT OF CERTAIN DISEASES (*The Medical Record*, September 22, 1877).—Dr. Ezra M. Hunt, after calling attention to the value of antiseptic treatment in surgery, and to the equal value of disinfectants and cleanliness in the prevention of zymotic disease, proposes a method of prophylaxis to be applied in the case of every individual exposed to contagion. He uses for this purpose chlorate of potassium, quinine, carbolic acid, tonics, and general hygiene, and claims that the results in his practice have been such as to lead him to attach great importance to internal administration of certain of these preventives. He adds that salicylic

acid and phenol are also valuable, and should be given so as to be manifest in the breath and present in all the tissues.

EFFECTS OF SALINE CATHARTICS UPON THE BILE (*Boston Medical and Surgical Journal*, September 27, 1877).—Dr. Robert Amory summarizes as follows the results obtained by Professor Rutherford from experiments made upon dogs with the salts which are more commonly found in natural spring waters having cathartic properties:

Sodium sulphate, sodium phosphate, probably by stimulating the hepatic cells, Rochelle salt (tartrate of potash and soda), have decidedly exciting influence in stimulating the flow of bile and increasing the amount of biliary matters; whilst magnesium sulphate, potassium sulphate, sodium chloride, sodium bicarbonate, potassium bicarbonate, and ammonium chloride have little if any cholagogue action; and, moreover, magnesium sulphate diminishes the flow of bile. With regard to the cathartic action these experiments show that sodium sulphate, magnesium sulphate, probably by excitation of the intestinal glands, potassium sulphate, and sodium chloride have a decided purgative effect upon dogs, and the irritant action on the intestinal mucous surface, especially in the upper half of the small bowel, is most marked after the administration of magnesium sulphate. All of the above-named saline cathartics produced more or less irritation of the mucous membrane of the small intestine, and yet the amount of purgation was not always in proportion to the post-mortem vascularity of the mucous membrane, as, in the case of decided and watery purgation from sodium phosphate, the vascularity was only slightly increased above the normal appearance.

Now, Carlsbad water holds in solution a large amount of sodium sulphate, which in these experiments showed the most decided cholagogue action of any of the above-named salts, and this fact is of importance to the clinician, who in practice has been led to rely upon these waters for biliary excitation. Magnesium sulphate and sodium sulphate are found in Hunyadi János bitter water in nearly equal parts, namely, about two hundred and twenty-five parts in ten thousand parts of the water. Pullna contains nearly as much sodium sulphate as the Hunyadi János, but only three-quarters as much magnesium sulphate. In Seidlitz water there is five-sevenths as much magnesium sulphate as the Hunyadi János, but no sodium sulphate. Friedrichshalle contains less than one-quarter as much magnesium sulphate and more than one-third as much sodium sulphate. From this we can deduce the following results, provided the action on man is similar to that on dogs. When catharsis without biliary excitation is indicated, we may use Seidlitz water; when both are desired, we may use Hunyadi János water; when only biliary excitation is

required, with very slight cathartic action, we may use Carlsbad water; both Pullna and Friedrichshalle have more influence in exciting biliary secretion than simple catharsis.

NEW METHOD OF REDUCING DISLOCATIONS OF THE SHOULDER (*New York Medical Journal*, October, 1877).—Dr. Kuhn describes a new method of reducing dislocations of the shoulder. He calls attention to the fact that there is a loss of force, due to the scapula following the traction made on the humerus, in the method ordinarily employed to reduce luxations of the shoulder-joint. He claims, on the contrary, that by making the humerus the fixed point, and reducing the scapula, there is no loss of power, and the resistance of those powerful muscles, the pectoralis major and latissimus dorsi, is obviated. With a passing reference to anæsthetics and to the prejudice which some practitioners entertain against their use, he proceeds to the *modus operandi*. A wedge-shaped cushion is placed in the axilla, the base of the wedge being downward; the surgeon, standing at the patient's side, lightly draws the arm downward, and at the same time presses it firmly against the pad in the axilla, so as to make it into a lever of the first kind; then, taking the inferior angle of the scapula in the other hand, he raises that bone and gives it a seesaw motion. Coaptation soon follows, the two parts returning to their natural position by a simultaneous effort made on the lower extremity of the humerus and the inferior angle of the scapula. If the head of the humerus be displaced forward, the angle of the scapula should be directed outward at the same time that it is raised. It should be directed inward if the dislocation be backward. If any difficulty be experienced in making the reduction, the task of holding and directing the arm should be confided to an assistant.

ALCOHOL TAMPONS IN SANIOUS UTERINE CARCINOMA (*New York Medical Journal*, October, 1877).—While it is often difficult to destroy the penetrating smell of a sanious uterine carcinoma by means of carbolic acid, chlorine-water, etc., this may be accomplished with marked rapidity and certainty with charpie tampons which have been saturated with absolute alcohol. An attempt to use concentrated solutions of salicylic acid for disinfection led to the use of alcohol in these cases. The first attempt was made with a saturated alcoholic solution of salicylic acid. This experiment having proved successful, absolute alcohol alone was used, with equally good results. The grumous, stinking shreds separated in a few days, and the ulcerated carcinoma presented the appearance of a clean, granulating surface. Nothing further than the mere disinfection is claimed for this remedy.

MORPHIA AS A PARTURIFACIENT (*The Obstetrical Journal*, September, 1877).—Mr. Arthur Wigglesworth, in a paper upon the

above subject, calls attention to a condition of the os which occurs during active labor and when it is more or less dilated, but in such a condition of rigidity that, however active and strong the uterine contractions may be, and however forcibly expulsive the efforts of the patient, the rigidity prevents the progress of the labor for an indefinite time. Then, after considering the action of morphia and other agents in this and other complications of labor, he advances the following propositions:

1. The condition of the os described is rigidity from spasm.

2. This spasmodic condition may arise from direct or indirect causes, producing, however, in both cases the same result.

3. This condition may be removed by the administration of morphia, having for its object the relaxation of the circular fibres of the os, without inducing either nausea or exhaustion.

The dose must be regulated with reference to—

1st. The physical condition of the patient, a nervous, excitable individual requiring a fuller dose than a phlegmatic one.

2d. The amount of rigidity, a thick os requiring a large dose.

3d. The condition of the stomach, a much larger dose being required if the stomach is distended with food or liquid.

GASTRITIS FROM ETHER-DRINKING (*The Lancet*, September 1, 1877).—An instructive case is recorded by M. Gaillard, in his lecture on Alcoholic Gastritis, contained in the volume of Clinical Lectures which he has just published. A woman, 48 years of age, a portress by vocation, whose health had always previously been good, was attacked, about three weeks before her admission into La Pitié under the author's care, with slight tremor of the hands. A week later she suffered from substernal and interscapular pain, and then morning vomiting. In addition to the tremor of the hands, she began also to experience tremors, cramps, and formication in the lower limbs, with weakness in walking. The vomiting continued, as well as the pain in the chest, the pain not being limited to the lower end of the sternum, but experienced along the whole course of the œsophagus. The tongue, which was large and white, was tremulous; there was intense thirst and some anorexia. M. Gaillard concluded that the patient was suffering from alcoholism, but the imputation was denied by the patient so strenuously, and with such an air of sincerity, that it seemed as if the diagnosis, which, however, appeared to be fully borne out by the results of ten days' treatment, could not be sustained. It was then, however, found that the patient's denial was perfectly true, but that she had during the past two months taken habitually before her meals a piece of sugar dipped in sulphuric

ether, on account of indigestion. She had thus consumed ten bottles of ether, each containing eighteen grammes (more than half an ounce). The immediate effect was one of excitement, which was followed by giddiness, a sense of weight, and tendency to sleep, but these effects speedily passed off. The case affords a good illustration of the resemblance between the physiological effects of ether and alcohol.

TREATMENT OF WOUNDS OF THE RADIAL AND ULNAR ARTERIES BY ACUPRESSURE (*The Clinic*, September 8, 1877).—Dr. J. P. Bramwell says that the surgeons of the Perth Infirmary have, for some time, employed acupressure instead of ligature in case of wound of the radial and ulnar arteries. This plan is easy of performance and can be quickly carried out. The acupressure needle is thrust down close to the artery on its ulnar aspect, and its point brought out a considerable distance from the side of the vessel on its radial aspect. In this way the collateral vessels seem to be caught and strangled, so as to prevent the blood from finding its way into the distal end of the artery. Where the wound in the wrist is very free, he prefers two needles, one proximal, the other distal; and each should be inserted close to the artery, and the point brought out close on the other side. The needles are then "kinched" with a strong thread, twisted round into a figure of eight, and drawn tight. A bandage may then be applied, or simply a cold-water rag. In four or five days the needles may be removed with safety; but if any fear of fresh hemorrhage be entertained, the "kinching" thread may be cut, and the needles left for twenty-four or forty-eight hours longer.

ENTERORAPHY FOR A FISTULOUS HERNIA (*The Clinic*, September 8, 1877).—One of the new operations by Prof. Czerny is thus described: A fistulous opening had existed for many years in the case of a man, aged 47, the subject of a scrotal hernia. The opening was in that part of the intestine which descended into the scrotum. Czerny opened the sac, detached the intestine, trimmed the opening in the intestinal wall, and closed it with catgut ligatures. He then replaced the intestine in the abdominal cavity, and performed his radical operation for the cure of hernia. The patient recovered completely, without any unpleasant symptoms.

TREATMENT OF PSORIASIS INVETERATA BY JABORANDI.—Prof. Thiry (*La Presse Médicale Belge*) has treated successfully two cases of this disease by infusion of jaborandi given in one case in doses of a drachm (four grammes) in about five ounces of vehicle, and in another case three to seven grammes, given at intervals of three or four days for about six weeks. Violent but passing cramps in the stomach were caused by the jaborandi.—*The Doctor*.

MISCELLANY.

THERE have appeared from time to time in the columns of *The Medical and Surgical Reporter* various misstatements in regard to the editor of this journal which we have corrected. In the issue of that journal for September 15 was an editorial statement which is the last we shall ever notice, because a falsehood so gratuitous and of such serious import not only lays its author open for damages by the hands of the civil court, but also, unless followed at once by a full, free, and public apology, puts him beyond the pale of the further notice of a gentleman.

It is asserted that a certain person, who is so plainly described that every one must recognize the editor of this journal, "has been accused of deliberately and openly consulting with homœopathic practitioners, and, we understand, does not deny the charge nor pretend that it will cease."

Almost every libel has some basis of truth out of which it is distorted, and, after conviction, the editor usually falls back on that basis and upon such generalities as "his desire for the welfare of the profession," etc. Such statements would be, however, in the present case so plainly transparent as to be scarcely worth while. The probable basis of the assertions of the editorial alluded to is the fact that the editor of this journal met in consultation a graduate of the University of Pennsylvania who is the son of a homœopath, and who for a short time followed his father's practice, until convinced of its falsity. At the date of the consultation Dr. Joseph Berens had not for some time practised homœopathy. The discovery by Dr. Brinton of the amount of truth in the report which may have reached his ears would have required only the trouble of writing a note to the person most concerned. The exaggeration of the current report from a single practitioner to practitioners, and the conjoined statement that Dr. Wood did not deny the charge, were, under the circumstances, without excuse.

The whole subject is so beneath notice that we should not have occupied space with it, except for the purpose of introducing the following note, received in reply to one of our own:

"1507 ARCH ST., PHILADELPHIA, October 19, 1877.

"H. C. WOOD, JR., M.D.:

"DEAR DOCTOR,—In reply to yours of the 18th instant I beg leave to state that the supposition that I am a homœopathist is wholly gratuitous, and especially so as some months since I furnished to a member of the West Philadelphia Book Club, for general circulation, a denial, prepared because the standing of a member of the profession was called into question on account of his relations with me. I take this opportunity of repeating that

denial,—of expressing my total disbelief in any exclusive therapeutic dogma or any of the tenets of the so-called homœopathic sect. I would further state that I do not hold professional intercourse with any save regular practitioners of medicine, and that my practice conforms with the standard teachings of the day.

"Very respectfully,

"J. BERENS, M.D."

ARTIFICIALLY-COLORED WINE.—Under the name of "oenokrine," a new test-paper, which it is stated will at once detect the presence of any artificial coloring-matter in wine, has recently been introduced into notice in Paris. When the paper is dipped into pure red wine it is immediately colored grayish-blue, and becomes lead-colored on drying. On the other hand, when moistened with wine that has been artificially colored by fuchsine or other aniline substance, the test-paper assumes a bright carmine-red color; when the wine has been colored by ammoniacal cochineal, the paper becomes pale violet; when by elderberries or mallow-flowers, bright green; when by logwood, the color of the husks of pressed grapes; when by Brazil wood or scarlet grains, dirty yellow; when by indigo extract, deep blue. The method of testing is very simple: a strip of oenokrine paper is left for about five seconds in pure wine, and is then well shaken to remove the excess of fluid, and laid upon a sheet of white paper, which brings out the color more sharply. A second strip of the test-paper is then moistened in the suspected wine and laid alongside the first, when any difference in the color of the two will at once become apparent. It is positively stated that even one hundred-thousandth of a part of fuchsine in the wine is sufficient to give the paper a light-violet color, while a large quantity brings out a bright carmine-red. Lainville and Roy, the discoverers of "oenokrine," assert that they have also discovered a method by which the fuchsine can be removed from the wine without injuring the latter.—*Boston Medical and Surgical Journal*.

AN important addition is being made to the means of practical teaching in the University of Berlin, in the form of a pharmacological institution, under the direction of Professor Oscar Liebreich. It contains two departments, one physiological and the other chemical, in which pharmacological, physiological, and chemical researches on medicines and their action will be carried on. The Prussian Government is about to erect a building for the laboratory.

PROFESSOR ROTHROCK, of the University of Pennsylvania, is to have charge of the Botanical Department of the Woodruff Scientific Expedition.

It gives us great pleasure to insert the following letter from Dr. Sayre. It is allowable

to say that we did not in any way endorse the charges, but simply stated that the *St. Louis Clinical Record* ought to be sued for libel if the charges were not true. We see no reason for altering this opinion; the object of such suit being forever to put to rest the assertions of the plagiarisms and to teach a lesson in regard to the responsibilities of journalists, rather than to obtain pecuniary damages.

"285 FIFTH AVE., NEW YORK, October 15, 1877.

"DR. HORATIO C. WOOD, EDITOR PHILADELPHIA MEDICAL TIMES:

"DEAR SIR,—In your issue of 13th October I find you have copied from the *St. Louis Clinical Record* a number of slanderous charges against my character, which are so *absurdly false* as not to require any notice, if they had not been copied into a medical journal which has hitherto been considered respectable.

"You also say that 'these statements, if true, ought to be generally known, and, if not true, ought to subject the editor of the *Record* to damages for libel.' Suing the *Record* would be like the old adage of 'suing a beggar and getting —.'

"I refer you to the following printed records, some of which have been before the profession for years, and by the reading of the same you will see that each and every one of the charges in the *Record* is *wholly and absolutely false*.

"*Charge 1st.* 'Dr. Sayre's hip-joint splint was invented by Dr. Davis.' To refute this I refer you to the 'Transactions of the American Medical Association' for 1860, pages 505 to 508, and by referring to the Patent Office at Washington 'Synopsis of Specifications,' No. 35,303, you will see that Dr. Davis took out a patent for his splint, which you will observe in the specifications is entirely different from mine, which was given to the profession, as well as its various modifications and improvements, as soon as tested and proved to be useful. I also refer you to my 'Orthopedic Surgery and Diseases of the Joints,' Appleton & Co., 1876, pages 260, 261, to prove the falsehood of this first charge.

"*Charge 2d.* 'Dr. Sayre's plaster-of-Paris socket was invented and first applied by Dr. Bryan, of Lexington, Ky.'

"*Answer.* See my report on Pott's Disease, 'Transactions American Medical Association' for 1876, page 585, where you will see full justice has been done to Dr. Bryan; also *Richmond and Louisville Medical Journal* for May, 1877, page 418; also my recent work on 'Spinal Curvatures and their Treatment by Suspension and the Plaster-of-Paris Bandage,' Smith, Elder & Co., London, Eng., 1877, page 14. Any honest man reading these three references, I think, will never again repeat this charge.

"*Charge 3d.* 'Dr. Sayre's method of self-

suspension in rotary lateral spinal curvature was invented by Dr. Benjamin Lee, of Philadelphia.'

"Answer. See my work on spinal curvature above referred to, Smith, Elder & Co., London, page 93. For fear that you may not be able to obtain the book in this market at present, I will quote the sentence on page 93 to which I refer:

"The late Prof. Mitchell, of Philadelphia, used to treat cases of lateral curvature by suspending them under the arms, and causing them to suspend themselves by the hands. But Dr. Benj. Lee, of Philadelphia, was the first person who caused his patients to practise *self-suspension*, by climbing up a rope which passed over a pulley and was attached to the patient's head by straps passing under the chin and occiput.' I think this answers that charge.

"Charge 4th. 'Dr. Sayre's Lectures on Orthopedic Surgery were by Dr. Louis Bauer, formerly of Brooklyn, New York, now of St. Louis.'

"Answer. By referring to the preface of my book on 'Orthopedic Surgery and Diseases of the Joints,' Appleton & Co., New York, 1876, it will be seen that the book was published from stenographic notes of my lectures in Bellevue Hospital Medical College, session of 1874-75, taken at the time by Dr. Wesley M. Carpenter, of this city. Most of the lectures were upon cases presented at the time in the lecture-room, and which Dr. Bauer could never have seen, as he at the time lived in St. Louis. The statement is, therefore, too absurd to demand any further notice. The general charge of plagiarism in the last sentence quoted from the *Record*, not being *specific*, cannot be *specifically* refuted, but to it I make a general denial.

"Please give this an insertion in your next issue, with such notes and comments as you think proper. LEWIS A. SAYRE."

NOTES AND QUERIES.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR DOCTOR,—Having used ergot for the last three years in cases of hemorrhoids, I thought it proper that I should confirm Dr. Edward S. Lansing's statement and experience as regards the beneficial action of this drug in that disease. This treatment I first saw suggested about three years ago in some medical journal. Since then I have used it with good and decided success in all cases of hemorrhages, including severe epistaxis, hemorrhoids, etc. We are all familiar with the effect of ergot upon the unstripped or involuntary muscular fibre, exciting it to contraction. Upon this well-known physiological principle it was suggested in almost all cases of hyperæmic condition, or, in other words, in enlarged conditions of the blood-vessels as a result of hæmodynamic pressure. Such, then, being the actual pathological condition found in hemorrhoids (enlarged veins), there cannot be any doubt that on this principle and fact alone ergot can give excellent and efficient results: indeed, in my hands it has never failed to give satisfaction in all those cases where I have used it for such purpose,—to produce contraction of the blood-vessels.

I have been in the habit of using it by the rectum (having previously advised an enema of warm water to remove any deposit in the lower part of the rectum) either as an injection in the form of Squibb's fluid ext. ergotæ f3ss. twice a day,

or as a suppository, as recommended or used by Dr. Lansing. I believe it has also been recommended hypodermically; but this, I think, must be a rather unpleasant and painful way, besides running the risk of causing abscesses, which, as a rule, are easily produced by the hypodermic injection of ergotin. Of course our next, if not principal, object is to attend to the bowels, which frequently are found in a constipated state: this can be prevented and remedied by giving the proper medicines usually prescribed in such cases.

Yours, respectfully,

JULIO J. LAMADRID, M.D.

BROOKLYN, October 15, 1877.

For chafed infantile skin I would recommend, first, to your correspondent, *cleanliness*; and second, a powder composed of equal parts of pulverized oxide of zinc or bismuth subnitrate and fine creta præparata. For urticaria or hives, keep the stomach and bowels in good order: frequently they are out of order in these cases. If there is acidity of the stomach, give "Phillips's milk of magnesia." This kind of treatment has seldom failed me.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

The undersigned takes this opportunity of correcting an error which, through oversight, had found its way into his recently published treatise on the ear.

On page 101 of this work a statement is made which conveys the idea that the author was the first to establish—by direct observation of the vibrations of the secondary tympanic membrane—the fact that the fluid of the labyrinth is moved as a whole under the influence of waves of sound conducted directly into the external auditory canal. He was not aware at the time that these vibrations of the membrane of the round window had been observed and their significance correctly interpreted two years earlier by Albert H. Buck, M.D., of New York (*Archives of Ophthalmology and Otolaryngology*, vol. i. No. 2, 1870).

The undersigned therefore takes this method of giving as great and immediate publicity as possible to the correction, as well for his own sake as for that of his friend, to whom the credit of priority justly belongs.

CHARLES H. BURNETT.

PHILADELPHIA, October 12, 1877.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 7, 1877, TO OCTOBER 20, 1877.

FRANTZ, J. H., MAJOR AND SURGEON.—Granted leave of absence for two months, on Surgeon's certificate of disability. S. O. 239, Division of the Atlantic, October 15, 1877.

GREENLEAF, C. R., MAJOR AND SURGEON.—Assigned to duty as Post-Surgeon at the post to be established at Helena, Mont. S. O. 136, Department of Dakota, October 8, 1877.

GARDNER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Allegheny Arsenal, Pittsburg, Pa., and assigned to duty at Atlanta, Ga. S. O. 232, Division of the Atlantic, October 6, 1877.

BUCHANAN, WM. F., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Allegheny Arsenal, Pittsburg, Pa., and to return to his station, Morgantown, N.C. S. O. 241, Division of the Atlantic, October 17, 1877.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 109, Department of Arizona, September 26, 1877.

LORING, L. Y., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, from October 10, 1877, with permission to apply for an extension of five months. S. O. 108, Department of Arizona, September 25, 1877.

AINSWORTH, F. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Whipple, A. T. S. O. 108, c. s., Department of Arizona.

SKINNER, J. O., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Carlisle Barracks, Pa., and to return to his station, Fort Johnston, N.C. S. O. 241, c. s., Division of the Atlantic.

WORTHINGTON, J. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Camp Grant, A. T. S. O. 108, c. s., Department of Arizona.

ROBINSON, S. Q., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at the post near Missoula, Mont. S. O. 136, c. s., Department of Dakota.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 10, 1877.

ORIGINAL COMMUNICATIONS.

A SURGICAL ENGINE.

BY JAMES E. GARRETSON, M.D.

DELICACY combined with speed of performance being of primary importance in operative surgery, any invention tending to secure this desideratum must necessarily be possessed of much interest both to practitioner and to patient.

The object of this paper is to illustrate the capabilities of an engine which the writer has had in use in his practice for some time back, and which is found to respond so entirely to its requirements as to merit an unqualified commendation. It is a time-, shock-, and pain-saving instrument, and is possessed of so many commendatory virtues that only a very short period can elapse before it will be met with in every operating amphitheatre, if not also in the private office of every surgeon.

The form and general construction of the engine are exhibited in Fig. 1. The surgical virtue lies in the arm hanging from the top to the left. In character the instrument resembles the ordinary pedal lathe. It has a fly-wheel, a driving-pulley, and the associate cord. The object of the power is to secure revolving velocity.

The upright of the engine differs, however, from the common pedal lathe in being hinged at its centre; rocking motion can be effected to any extent.

The arm is movable in every direction, being composed of a flexible wire shaft and a flexible sheath. The extremity of the arm is a mandrel. The capability of this arm to respond in its motions to the slightest impulse of an operator's finger, even while the instrument held by it is being whirled one or two thousand times in a minute, is little less than wonderful. A pen is not more completely under control than is here a revolving saw or knife,—a capability which has called forth the expression from one well versed in mechanics that for simplicity, ease in movement, and adaptation to its ends the machine exceeds anything ever seen by him.

The mandrel, or carrier, together with the terminal or associate end of one of the instruments—a rose drill—used with it, is

shown in Fig. 2. Whatever is fixed into this carrier will revolve with it.

Fig. 1.

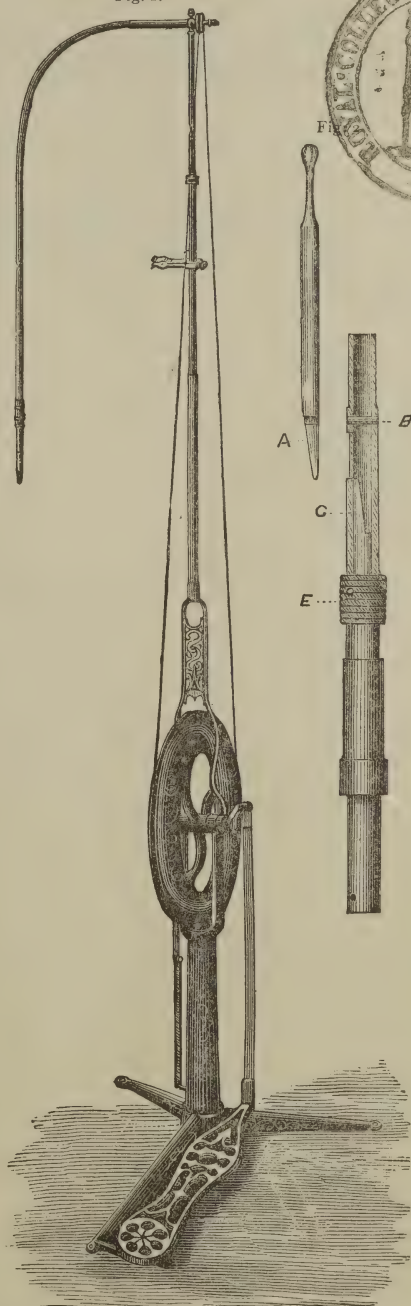


Fig. 3 exhibits a modification of the mandrel, which admits of the employment

of an instrument at any desired angle. Still another modification is shown in Fig. 4, together with what may represent a cir-

Fig. 3.

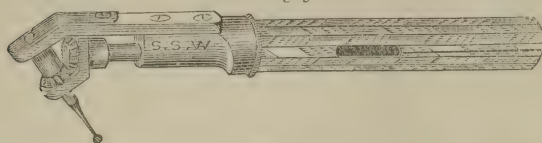


Fig. 4.



cular saw fixed to its place and ready for service. In these illustrations the mandrels are shown covered by what is known as the hand-piece.

To operate through the aid of this engine, all that is necessary is to place the instrument to be used in the grasp of the carrier, as shown in Figs. 3 and 4, and, putting on the power by means of the treadle worked by the foot, direct the instrument after the manner of a pen carried by its holder.

After this limited but all-sufficient description of the engine, attention may be directed to a few cases illustrative of its application to surgical purposes.

1. Being an invention in dentistry proper, the present common use of the machine is the preparation of the cavities of carious teeth preliminary to the process known as filling.

When dental caries extends to close proximity with the pulp of a tooth, the necessity for the slightest possible touch is paramount; the difference of a hair's breadth is oftentimes all-important to prevent the exposure of that organ. In the majority of instances, such manipulation has to be accomplished unaided by the sense of sight. The engine works with such absolute certainty that the requirements are met without effort or concern on the part of him who directs and controls the lightning-like speed of the point that cuts.

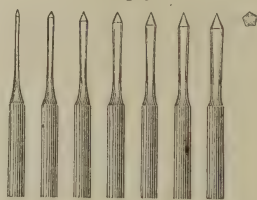
2. THE REMOVAL OF TEETH.—It not unfrequently occurs that teeth require to be extracted where the relation with a dense alveolar process so nearly approaches the character of a true anchylosis that the

force required to break the connection is beyond the ability of the operator to exert or the strength of the jaw of the patient to withstand. Cases of this kind afford signal triumph to this engine: through its aid the writer has succeeded, after a moment of almost painless manipulation, in removing with the greatest possible ease teeth which could not have been extracted after the ordinary manner.

To remove a tooth, using the engine, one of the five-sided bits, preferably the smallest, shown in Fig. 5,

is placed in the carrier, and, while held closely against the organ to be removed, is revolved until it cuts its way between tooth and socket: this done, the finger forceps not unfrequently suffices to lift the organ from its alveolus. The drill is to possess three or five sharp sides, continued its whole length: thus provided, it cuts from point to base, as the operator carries it around the tooth.

Fig. 5.



3. TREATMENT OF AN ABSORBING ALVEOLAR PROCESS.—Loosening of the teeth arising out of absorption of their alveoli is a condition met admirably through the aid of the engine. Generally it is found that the origin of the bone disease, as well as the falling away from the neck of the tooth of the gum, has explanation in the presence of common tartar. The indications in such cases are twofold: 1st, to remove all calculus; 2d, to freshen the circular edge of the absorbing bone.

To accomplish the first of these indications, sugar-loaf drills, as portrayed in Fig. 6, are to be used, —the smaller the better. One of these being placed in the mandrel is carried, while in rapid revolution, around the neck and root of the tooth; the scaling effected by it is very complete, while at the same time just enough abrasion is produced in the surrounding soft parts to

Fig. 6.



excite the required reaction, which shall change to a healthy surface a suppurating one.

To accomplish the second of the indications, namely, the freshening of the bone, the writer employs the rose drill shown in Fig. 7,—smaller, however, than the smallest of these. Resting a drill of this kind against the diseased bone, the circumference is easily removed by means of the slightest pressure made on the revolving instrument. It may not be amiss to allude to the necessity for washing away the detritus by means of a syringe.

Through such double operation the writer has found himself able to restore many loose teeth to a fair degree of health. True, the same ends are to be reached by other means; but no instruments so easily, readily, and painlessly accomplish the work as those here suggested.

From the manipulations practised in dentistry proper—of which there are a great many—the writer has carried the use of the engine into the domain of oral surgery.

4. TREATMENT OF CARIES OF BONE.—A glance at Fig. 7 will make plain to the surgeon the usefulness of the instrument in

this means of operating can only be trifling. It is the very nervous alone that think ether necessary.

The rose drills used in the operation are to be obtained of all sizes. Those shown in the cut are well adapted to the work.

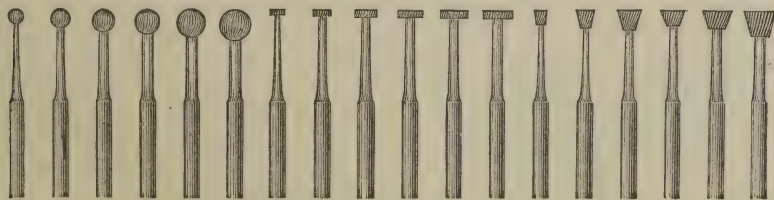
5. TREPHINING.—A trephine revolved by this mandrel moves with such absolute accuracy that accident is impossible; the directing of it is as easy of accomplishment as is the guiding of a pen. Not more than a second is required to enter the antrum or to get out of it at the maxillary tuberosity.

6. EXPOSING THE INFERIOR MAXILLARY NERVE.—For uncovering the nerve by removing the roof of the canal the manner of operating described below in which the engine is employed surpasses any other with which the writer is familiar. The ease and nicety of manipulation so commend the instrument that when once it has been used the performance would scarcely be re-attempted without its assistance.

Fig. 8.



Fig. 7.



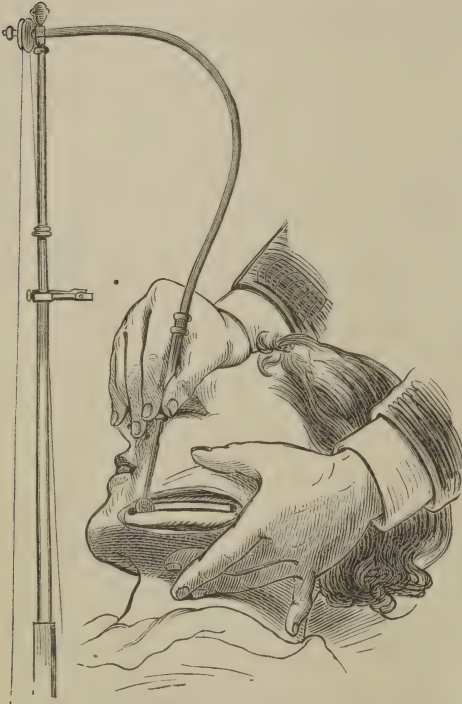
the treatment of osseous caries. As operations on the maxillæ are concerned, the help afforded by it is simply invaluable. By its aid the surgeon feels himself able to do almost anything, and to do what is to be done without effort to himself and with the minimum of discomfort to the patient. On a number of occasions the writer has performed what were really quite extensive operations, while the patient, without an anæsthetic of any kind, was unconscious that the removal of bone was being effected. Extreme as is the assertion in seeming, it is really the case that a whole diseased jaw can be cut from its bed without any particular evidence being afforded to the bystander that an operation of consequence is in progress. A sinus big enough to admit a rose drill is all the external wound required. The pain connected with

DESCRIPTION OF OPERATION.—Two indications are assumed to be paramount: 1, to operate without a resulting scar on the face; 2, to make such manner of exposure of the nerve that it may be fully and fairly examined before being lifted. To these two may be added a third,—namely, the cutting away of the bone in such manner as will justify the surgeon in acting on the conclusion that there will be no resulting suppuration.

Indication first is successfully met by drawing up the shade-line from beneath the base of the face, and, with the facial artery protected by a finger-nail placed just in front of it, making an incision one and a half inches in length down to and along the jaw. The incision made, the wound is opened, and the roof of the canal exposed, as shown in the cut.

Indication two is met as also shown in the cut. First, a small trephine—the circular cuts made by it are seen in the diagram—is used at either extremity of the proposed length of exposure. After this the two are connected by saw cuts carried above and below along the length of the canal. These manipulations accomplished, the roof is lifted, and the nerve and artery are seen lying undisturbed in their bed.

Fig. 9.



A nerve so exposed enables the operator to verify the truth of, or to satisfy himself of an error in, a diagnosis: besides, it gives a ratio of success, where local lesion exists, far greater than the general manner of operation. The writer is confident that the advantages of this method of uncovering the nerve need the commendation of but a single trial to make evident its superiority over all other modes. The diagram sufficiently explains the steps, without need for further written illustration.

7. RESECTION OF LOWER JAW.—Fig. 10 shows the engine used in a resection of the inferior maxilla. The operation in such manner of case is accomplished with great rapidity and without the cost of any effort to the surgeon. The writer has found

himself able to accomplish in this direction in a few minutes what with the Hey's saw would have cost the greatest part of an hour's most trying work. The illustration

Fig. 10.



suffices to exhibit the application of the instrument.

8. OPERATIONS IN EPULIC GROWTHS.—As the instances are rare in which the removal of bone is not indicated in treatment of the epulides, the engine, together with its circular saws and rose drills, offers an easy and expeditious means of operating, which, it seems to the writer, must necessarily command, sooner or later, a general employment.

In the smaller epulic growths experience has demonstrated the inexcusable impropriety of a section

that breaks the line of continuity at the base of the jaw; such section certainly is not necessary in more than one out of every fifty cases. Fig. 11 exhibits a specimen of what is meant by "the smaller growths." Such tumors, while assuredly they demand removal of bone, are to be ablated, as shown in Fig. 12.

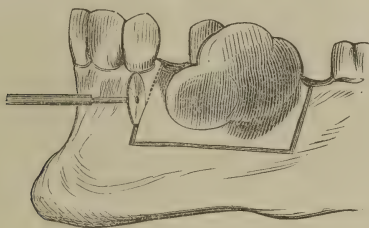
In the performance of ablation, as exhibited in the diagram (Fig. 12), it has been a custom with the writer to employ, in common with all other surgeons, the

Fig. 11.



straight and cross-cutting forceps. These instruments allow of undeniably rapid accomplishment in operation, but serious objections to their use lie in the facts—1st, of an inability to cut the jaw-bone proper, only the alveolar process being capable of such manner of removal; 2d, in the cut made with the vertically-used forceps there is always more or less danger of fracturing the jaw; and 3d, cuts made with forceps are apt to inflict a damage which it requires much suppurative action to get clear of.

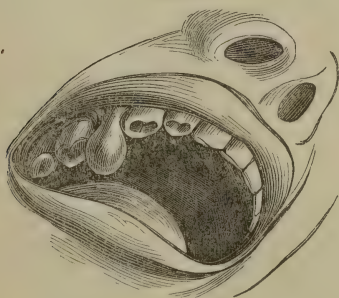
Fig. 12.



In the employment of the circular saw in this direction it is only necessary to incise the soft parts in the lines of the cuts to be made. If the size of the morbid growth demand such extent of operation, the saw can be run both vertically and transversely to within a line of the base of the jaw without the slightest danger of fracture, and, because of the delicacy with which the cutting is done, with almost as little danger of a resulting necrosis of the frail but most important septum which has been left, and upon which depends entirely the preservation of the contour of the lower part of the face.

The use of the rose drill is often resorted to in these cases by the writer. Very small

Fig. 13.



growths (Fig. 13 serves as an illustration) require no other means. Cutting off the

soft parts of the tumor, a few thousand revolutions of the drill will remove the involved bone with the greatest thoroughness. Indeed, not only the minor, but the major cases also are amenable to this method of radical extirpation.

The mode of using the engine in these cases will be understood by reference to Fig. 12 and to the operations for caries and in resection.

9. TREATMENT OF UNUNITED FRACTURES BY WIRING.—The drills exhibited in Fig. 5 are so admirably adapted to the perforation of bone, and the revolving power of the engine is so great, that making a hole through the maxilla is the work of scarcely a second of time. Besides the ease in the accomplishment of the object, there is nothing of that inconvenience which associates with the use of a bow drill, neither is there the slightest danger of whirling into the flesh the drill that is making the hole in the bone.

The few illustrations offered are deemed quite sufficient to exhibit the capabilities of the engine. The applicability of the means to a great variety of operations in surgery at large will strike the general practitioner. With an increase of power, which, it would appear, may be readily given the machine, it would seem to offer advantages in the treatment of the carious stage of hip-joint disease not possessed by other means. In place of turning out the head of the femur, nothing would be easier than to cut it into raspings by means of a long-stemmed raspator; a syringe completing the operation by washing away the fragments. The common sinus would afford the required room for introduction both of bit and syringe-nozzle.

Caries of the acetabular cavity demanding operation would find a most reliable means of treatment in the revolving rose drill: accident would be impossible, while extirpation of the diseased bone would be a certainty.

TREPHINING.—With a sufficiency of revolving power the trephining of the cranial vault by means of this engine would certainly be the perfection of an operation. A child could accomplish it without danger of injury to the dura mater. To get to the meninges would be but the work of a few seconds, while the manipulation could be practised, if necessary, on a floating bone.

TO REPLACE THE GOUGE.—In whatever

operation a gouge is indicated the rose drill is adapted to take its place.

AMPUTATIONS.—The ease with which a separation of continuity in bone is effected by means of the common saw seems scarcely to leave room for improvement. Cases, however, may readily be supposed where such requirements as associate with the use of this engine would enable it to afford valuable assistance.

APPLICATION TO LITHOTRITY.—It would seem to require but little inventive genius to connect this engine with the lithotrite in such a manner that while a stone in the bladder should be firmly held a spear-headed revolving drill should cut it to pieces, or at least so weaken it as to allow of an easy crushing by the blades of the instrument.

STRICTURES.—The perforation of a stricture by means of a properly constructed bevel-head revolving within a cylindrical bougie will suggest itself.

NÆVI.—The tearing into pieces, subcutaneously, of the spongy mass of erectile nœvi is a very feasible operation.

CATARACT.—The engine affords a means for the drilling and breaking up of cataract in young children, which is not to be equalled in delicacy of manipulation by any human fingers, however practised and experienced. The needle could be entered with equal certainty whether at rest or in rapid rotation.

As in the practice of the writer some new use is found for the engine almost daily, it is to be supposed that its introduction into hospitals and clinics will extend very widely the range of its employment. Considered alone as a shock- and pain-saving instrument, it not only merits but also commands an earnest scrutiny on the part of every operating surgeon.

ON THE ARTICLES OF DR. C. G. POLK UPON GLYCERITE OF KEPHALINE.

BY SAMUEL R. PERCY, M.D.

IN the *Philadelphia Medical Times* for September 29 there is a communication from Dr. C. G. Polk on "Protagon;" in the *Virginia Medical Monthly* for October there is a communication from the same author on "Glycerite of Kephaline;" and in the *Druggists' Circular* for October there is also an article on "Glycerite of Kephaline."

It had not been my intention to take any notice of what Dr. C. G. Polk might say; but when respectable journals, such as those I have above quoted, admit his ignorance and personal attacks upon myself to appear in their columns as scientific chemistry and valuable discoveries, I do not feel that it is right to let it pass in silence. When he and his associates confine their communications to their own Eclectic journals, I have no fault to find: they properly belong there.

Dr. C. G. Polk says, in one place, "I employ the name glycerite of kephaline to designate a solution of brain hypophosphites in glycerine acidulated with hypophosphorous acid."

In another place he says, "I make the solution represent the following formula: cerebrate of ammonium, potassium, calcium, sodium, magnesium, glycerohypophosphorous acid, cerebrie acid, and pure glycerine."

In another journal he says, "I may here state that the glycerite of kephaline is a saturated solution of cerebrie acid, cerebrate of nitrogen, and cerebrate of sodium, in chemically pure glycerine." "Cerebrie acid may be obtained after Frémy's method."

In another journal he says, "The phosphoids of the brain are cerebrie acid, cerebrate of sodium, the cerebrate of calcium, and the cerebrate of ammonium. These, with an albuminoid body, constitute the kephaline."

Thus we have four formulas, all of them differing in a very great degree and containing different substances, by which his "glycerite of kephaline" is made. In his previous paper, and in his circular to the public, he gives us to understand that his protagon and glycerite of kephaline are the same thing. "While I have used it since 1858, and one year longer than the preparation I called in my note-book 'Kephaline,' but now known as 'Protagon.'" "The phosphoids of the brain are cerebrie acid, cerebrate of sodium, calcium, and ammonium," that is, cerebrie acid combined with alkalies and formed into salts. By Frémy's analysis, which he quotes as his formula for making cerebrie acid (which dates back to 1841), there is but 0.9 per cent. of phosphorus in cerebrie acid, and that is entirely due to the little myeline contaminating it. Von Bibra's analysis of a later date gives but

0.52 per cent. of phosphorus in cerebrie acid. Muller in 1858 reviews these analyses, and says, after careful investigations, that cerebrie acid is not an acid, but a neutral nitrogenous body. "The reasons adduced by Frémy will not suffice to prove this body to be a well-characterized acid: on the contrary, its chemical behavior proves that it belongs to the class of neutral nitrogenous bodies. Moreover, Frémy dealt with an impure substance." Kohler, Otto, and Liebig have since confirmed this. All late investigators deny the existence of cerebrie acid, and Thudichum, the latest and most perfect, states that "cerebrin" contains no phosphorus, but is a nitrogenous body. Thudichum says, "Cerebrin has the affinity for water to the extent of swelling to gelatinous masses, but it does not go into a state of solution, and does not pass paper filters under any pressure; while the compounds with salts, oxides, and acids are so unstable as not to admit at present of quantitative definition." Thus it appears by many authors that Polk's "cerebrates" or "brain phosphates" have no existence; that Frémy's impure "cerebrie acid" contains but a mere trifle, less than one per cent., of phosphorus, and that Polk's asserted addition of "cerebrie acid as its solvent" is the most laughable chemical nonsense of the day, and makes it evident that all Polk's formulas are but the emanations of his imagination. In the very same article he says in one place, "I employ the name glycerite of kephaline to designate a solution of cerebrates or *brain* hypophosphites;" in another place, "the glycerite of kephaline does not contain the phosphates and phosphites of the brain." He says, "So soluble are these cerebrates that they will dissolve in nearly their own weight of glycerine." If any chemist will take the trouble to make some "cerebrie acid" according to Frémy's formula, he will find that it is insoluble in glycerine.

Polk directs to take of his compound "ten drops in water."

Frémy says, "It is insoluble in water, only swelling up to a viscous mass."

Late authors upon the analysis of the brain divide the brain-principles into two groups, the phosphorized and nitrogenous principles. The phosphoid principles are kephalines, myelines, and lecithines; the nitrogenous principles, cerebrines, phren-

osines, and kerasines. Polk, better informed than all modern scientists, says that "the phosphates of the brain are cerebrie acid, cerebrate of sodium, calcium, and ammonium. These, with an albuminoid body, constitute kephaline." We have before proved that cerebrie acid does not exist: therefore the cerebrate of sodium, etc., certainly has no existence, and Polk, by his own showing, *creates* phosphoids out of substances possessing no phosphorus.

Again he says, "The hypophosphites belong to two classes: monobasic hypophosphites formed from vitreous phosphorus, and tribasic hypophosphites isolated from vegetable and animal organisms." It has been demonstrated by all chemists that a monobasic hypophosphite cannot exist,—that three equivalents of base are essential to its composition, whether derived from an animal, a vegetable, or vitreous phosphorus. But facts are of no account: Polk creates.

In Frémy's analysis of cerebrie acid, and in all his analyses of brain-matter, he never professes to have discovered a particle of hypophosphorous acid; but Polk, who uses Frémy's method, professes by it to have discovered that the phosphoids of the brain are hypophosphites; this he announces in his first written article on the subject in the *Druggists' Circular*, March, 1875, and no impartial person who will read this article will deny that it is wholly plagiarized from "Percy's Essay on Phosphorus," printed in 1872.

To sum up, then, we find:

1st. "To Liebreich the credit is usually accorded of having first isolated protagon from the brain (1864). My own researches antedate his."

2d. He used the hypophosphites before Churchill's discoveries of their value in medicine was published, and poor, ignorant Churchill used only the monobasic, while he used the tribasic varieties.

3d. He made "cerebrie acid" according to Frémy's formula, and by the addition of soda and lime to it he made cerebrates, and out of the cerebrates, which contain no phosphorus, he made the hypophosphites of the brain.

4th. In 1876 he claims to have discovered ("before Percy") that the phosphoids of the brain and nervous system were hypophosphites, and he gives as proof that he has not been stealing from Percy

that he has used them since May, 1859, and that one of his friends, under his direction, used "glycerite of kephaline" in 1872. Thudichum, in 1874, says that he "has now described kephaline for the first time."

5th. He creates substances that do not exist. From "cerebric acid," which is a mixture of cerebrine, phrenosine, kersine, the nitrogenized principles of the brain, and all devoid of phosphorus, he makes "glycerite of kephaline, or brain hypophosphites."

What a modest discoverer we unknowingly have among us! Churchill, Liebreich, Koehler, Otto, Liebig, Percy, Thudichum, must all yield their discoveries to him, because long after their publications were widely disseminated in print, he claims to have made their discoveries for them.

But seriously, Mr. Editor, *you* are unwittingly responsible for this disagreeable necessity of correcting this jargon of bad chemistry.* As I have been long known on the subject of phosphorus, it might appear to those who do not know me that I have a personal feeling in the matter. I *have* the feeling that the profession should always have pure medicines to use. "Dr. C. G. Polk, Professor of Surgery in the Eclectic Medical College of Pennsylvania, Medical Department of the American University of Philadelphia," should be well known to editors of respectable journals. Our code of ethics makes some distinction between that institution and the one to which we belong.

47 WEST THIRTY-EIGHTH ST., NEW YORK.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

SERVICE OF PROF. AGNEW.

Reported by H. R. WHARTON, M.D.

POPLITEAL ANEURISM, LIGATION OF FEMORAL ARTERY, PROFUNDA FEMORIS, COMMON FEMORAL, OBTURATOR, EXTERNAL ILIAC, AND COMMON ILIAC; DEATH FROM SECOND-ARY HEMORRHAGE.

MAY 3.—George G. presented himself at the University Hospital with a large aneurism, situated in the left popliteal space, and which measured in its largest circumference over the patella twenty-one

inches, the sound limb measuring at the same point fourteen inches; it extended from the lower border of the popliteal space to the lower third of the thigh.

He states that he first noticed the tumor coming on after a sprain of the left knee, which occurred more than four years ago; since that time it has gradually increased in size, and has been accompanied with the most severe pain.

The patient was kept in bed, with the affected limb elevated, and given tinct. aconiti gtt. iij with potassii iodidi gr. v every six hours.

May 7.—Esmarch's bandage applied to limb for one hour caused great pain, and was followed by no change in the tumor.

Digital compression was commenced on femoral artery, which entirely controlled pulsation in the tumor, and was continued for twenty hours, but had to be given up, as the patient was much exhausted and his stomach became very irritable. No perceptible change could be noticed in tumor after this operation. It was now decided to tie the femoral artery as soon as the patient should be in condition.

May 12.—The patient being in good condition, the femoral artery was ligated at the apex of Scarpa's triangle with a double catgut ligature, and the wound closed. Pulsation in aneurism entirely controlled; limb enveloped in cotton, and temperature of affected limb found to be higher than that of the sound limb.

May 13.—Patient doing well; temperature of limb almost normal; complaints of great pain in tumor, which is relieved by the free use of morphia.

May 14.—Has less pain; rested well; wound looks healthy; tumor becoming firmer, now measures nineteen and a half inches.

May 21.—Patient has done remarkably well until this morning, when blood was noticed flowing from the wound. This was controlled by pressure on femoral artery.

The wound was opened, clots removed, and the hemorrhage was found to have come from an ulceration in the coats of the vessel, a short distance above the ligature, which was in position; no clot had formed in the vessel. The vessel was now tied above and below the ulcer, and the wound closed.

May 22.—Patient has reacted well, takes nourishment freely; given iron and quinine.

* We accept the responsibility with pleasure. Dr. Polk's articles have been appearing in medical journals of standing for several years, and it is time some one did for them what Dr. Percy has done. It is hardly necessary to say we were ignorant of the professional standing of Dr. Polk.

May 25.—Patient's strength improving; wound filled with healthy granulations.

May 28.—Passed a restless night; this morning his temperature is elevated and his pulse quickened.

About eleven o'clock profuse hemorrhage started from the wound, which was controlled by pressure on the femoral; the wound was opened and clots removed. The bleeding was found to come from an ulceration in the coats of the profunda femoris: this vessel was tied above and below the seat of hemorrhage.

May 29.—Patient reacted well after hemorrhage, taking nourishment freely.

June 4.—Patient in good condition; wound looks well; aneurism diminishing in size, now measures seventeen and a half inches.

June 11.—This morning hemorrhage suddenly started from the wound; it was controlled by a compress, but on its removal the blood flowed so profusely that it was impossible to secure the bleeding-point in the wound, as pressure on the common femoral almost controlled this. The vessel was ligated just above the origin of the profunda femoris; after securing this ligature the bleeding-point was tied in the wound. The hemorrhage in this case appeared to come from an enlarged vessel between the femoral and obturator. Patient much exhausted after the hemorrhage; given stimulants freely; reacted slowly.

June 15.—Patient's condition again improving; takes nourishment well; wound looks healthy; aneurismal sac firmer; has less pain in affected limb.

June 22.—Ligature from common femoral came away; wound looks well.

June 23.—Patient this morning is restless, complains of pain in his bowels and itching in the wounds; temperature elevated. During the afternoon profuse hemorrhage started from the wound at the point where the ligature came away from the common femoral; bleeding controlled by pressure on the wound. Dr. Agnew now tied the external iliac artery, using the double catgut ligature, and closing the wound; hemorrhage entirely controlled. Patient reacted quickly, having lost little blood; temperature of limb on affected side higher than sound limb.

June 24.—Patient restless, and complains of great pain in the tumor; given morphia freely. About ten o'clock in

the evening, profuse hemorrhage started from the upper wound in which common femoral was tied; this was controlled by pressure in the wound, and after much difficulty the bleeding-point was secured by a ligature, with the aid of Horner's awl. The hemorrhage in this case appeared to come from obturator. Patient, having lost a considerable amount of blood, reacted slowly.

June 26.—Improving in strength; takes his nourishment well; wounds look healthy; aneurismal sac contracting; still has considerable pain in limb.

June 27.—This evening hemorrhage started from obturator where ligature was last applied; controlled by pressure on the wound, as the bleeding vessel could not be secured in the wound on account of the violence of the hemorrhage. Dr. C. T. Hunter tied the common iliac, which entirely controlled the bleeding; the wound was closed, and the limb was enveloped in cotton. Patient reacted slowly; given nourishment and stimulants in small quantities; temperature of limb good, except at foot.

June 28.—Patient has entirely reacted; temperature of entire limb a little higher than normal; takes his nourishment well.

July 2.—Patient passed a restless night. At 8.30 this morning hemorrhage started from wound in which obturator was tied; controlled by pressure on the wound, and the bleeding-point secured after much difficulty. Reacted well after operation.

July 3.—Patient has been quite restless and delirious to-day, but has taken nourishment well. At 8.30 this evening the nurse noticed blood flowing from wound in which iliacs were tied; the abdominal tourniquet was applied, which arrested further hemorrhage, but the patient was much exhausted, and gradually sank, and died in about an hour.

Post-mortem Examination, twelve hours after death.—On examining the iliac artery the ligature on the external iliac was found in place; the ligature on the common iliac was also found in position, about half an inch above its bifurcation. There was a clot in the common iliac above the ligature for a distance of one and a quarter inches. About three-fourths of an inch above the ligature there was found a perforating ulcer in the wall of the vessel, about three lines in diameter, and from which the hemorrhage had come. A pipe

was then put in the left common iliac and the ligature was removed from the obturator. Now upon injecting fluid it freely escaped from the obturator, showing that the left obturator artery was supplied by anastomosing branches between the right and left internal iliac. Upon exposing the aneurismal sac the popliteal nerve was found stretched over the sac. Upon opening the sac its walls were found thickened with organized clots,—it contained broken-down and organized clots. The posterior surface of the femur about and a short distance above the condyles was denuded of periosteum from pressure of the tumor.

It should be noted in this case that the patient had, some ten years before, suffered from constitutional syphilis.

Much credit is due, in connection with the general conduct of the case, to Messrs. Scott, Beatis, and Gillespie, members of the medical class, who watched the patient at night during his entire sickness.

TRANSLATIONS.

SUDDEN DEATH FOLLOWING THE USE OF SALICYLIC ACID.—Dr. Empis (*Bull. Gén. de Thérap.*, v. 2, 1877, p. 25) gives notes of a case of acute articular rheumatism, in which, after trying quinine, purgation, etc., unsuccessfully, he ordered salicylic acid in ten-grain doses, administered in *cachets de pain* every two hours. Within twenty-four hours a decided change for the better had taken place in the patient's condition; the joints were less painful, and the limbs could be moved. The patient, however, complained of deafness and continual tinnitus aurium. The fever had gone, but he perspired excessively and was quite weak. A very slight systolic murmur could still be heard over the heart. Seven grains of salicylic acid every second hour were prescribed. On the third day all treatment was suspended, and the success of the salicylic acid treatment was remarkable. After a restless night, however, the patient took a small quantity of soup, which he had scarcely swallowed before he complained of violent pain in the stomach, and a few moments later fell back on his pillow unconscious.

His limbs moved convulsively for a few seconds as in eclampsia, his respiration became stertorous, inspirations followed at longer and longer intervals,

finally the heart ceased to beat, and the patient was dead. M. Empis is very positive in asserting salicylic acid (or metastasis!) as the cause of death. As, however, no medicine had been taken for nearly twenty-four hours, and as no post-mortem examination is noted, some doubt appears to obtain as to the real cause of death. x.

ANEURISM OF THE ARCH OF THE AORTA TREATED BY ELECTRO-PUNCTURE.—Dujardin-Beaumetz (*Bull. Gén. de Thérap.*, v. 11, 1877, c. 1) gives a very full description of this method of procedure, illustrated by a case in which electro-puncture was performed with a partial result, which he hopes to make complete at further sittings.

The conclusions which Beaumetz draws from the observation are as follows:

1. Electrolysis is a rational method of treating aneurism of the aorta.
2. This method should be resorted to when other methods have failed to give relief.
3. Applied with the necessary precautions and following the indications and counter-indications formulated by Cini-selli, this method is never accompanied by immediate severe accidents.
4. Electro-puncture has ameliorated aneurisms of the aorta to a notable degree in nearly two-thirds of the cases. x.

MEDICINAL RASHES.—Several communications have recently been made to the *Berliner Klinische Wochenschrift* on the subject of eruptions induced by the ingestion of various medicines. The first and most lengthy of these is by Dr. Köbner, in Nos. 22 and 23 of the journal mentioned. Under the designation "medicinal exanthemata" he includes all those eruptions which are produced by actual absorption of medicines, whether by the stomach or intestine, from hypodermic injections or from inhalations; eruptions which appear quickly and are rapidly cured. These are to be distinguished—1, from those eruptions brought about by the direct application of medicines to the cutaneous surface; 2, from eruptions which, though arising from absorption of medicines, yet appear gradually and are accompanied by actual pathological (hypertrophic or atrophic) changes.* Well-authenticated cases of the

* Such, for example, is the case of alopecia areata which was observed by Wyss (*Arch. f. Heilk.*, 1870, p. 395), and which he considers the result of a prolonged course of arsenic. This was more probably the result of the nervous disturbance for which the arsenic was given. Haeberle's case of multiplied wart formation on the face following the use of bromide of potassium probably belongs to the same category.

atrophic variety are wanting. True medicinal rashes are usually of an inflammatory nature, frequently mere hyperæmiæ: they are rarely hemorrhages. The former appear, according to their location, as urticaria, roseola, or erythemata of various kinds. Occasionally they assume the form of acne or even furuncular inflammations; very seldom they assume the phlyctenous (vesicles or pomphæ) or the papular eczematous form. Only in exceedingly rare instances is atonic ulceration or gangrene of the skin observed.

Medicinal rashes are either confined to some single locality or are generally distributed over the body. The latter variety may be divided into two classes. The first of these begin in a given locality, and gradually spread. They are not accompanied by fever. In order that rashes of this form should spread extensively, the medicine must have been taken for a considerable period. To this class belong eruptions brought on by the haloid salts, particularly bromide of potassium. The second class of eruptions appear suddenly, sometimes after a single dose of the agent, occasionally even when this has been very small. Rashes of this class are only rarely the effect of cumulative influences. They are accompanied by fever, general disturbance of the system, with frequent involvement of some of the mucous membranes, particularly of the upper digestive passages. These symptoms mark such cases as intoxications, and the acuity of these eruptions, as well as their simultaneous appearance on all parts of the body, causes them to resemble closely the acute exanthemata. Two diagnostic points distinguish artificial eruptions of this class: 1, decrease of the eruption when the medicine is stopped, with return following its repetition; and, 2, chemical proof of the presence of the medicine in one of the physiological secretions, usually the urine. A third point may be mentioned as occasionally available, —namely, the different grouping of the medicinal rash as compared to the eruption likely to be mistaken for it. Of course the history of the case is to be considered also.

In illustration of the difficulty occasionally arising in the diagnosis of these rashes, Köbner gives full notes of a case of quinine eruption which was mistaken for scarlatina, and alludes to Bernouilli's case of "exanthema scarlatinoides recidivum" as probably similar. In No. 23 of the same

journal Heusinger gives notes of a similar quinine exanthem, and Apolaris another case where an urticaria-like eruption followed the use of morphia. Köbner and Heusinger's cases are of great interest, and the former especially is related with great minuteness of detail. x.

ELIMINATION OF MERCURY UNDER THE INFLUENCE OF SULPHUROUS MINERAL WATERS.—It has been frequently asserted that syphilitic patients who have been free from any symptom of the disease for a longer or shorter period suffer, occasionally, a relapse after taking a course of the sulphurous waters of Aix-la-Chapelle. Dr. J. Edmund Güntz, of Dresden, has recently made some interesting observations on this subject (*Vierteljahresschrift f. Derm. u. Syph.*, 1876, p. 297). The urine of syphilitic patients, in whom all symptoms of the affection had disappeared, and who had taken no mercury for some time previous, was examined for this drug, but always with a negative result. After having ingested 1200 cm. of the "Kaiserquelle" water daily for some days, and also having bathed daily in the same, mercury reappeared and was detected in the urine. At the same time syphilitic manifestations on the skin began to show themselves. Güntz does not admit the mere removal of the mercury to be the cause of the reappearance of syphilitic manifestations. He maintains, however, that there is some connection between the two. The increased secretion of urea observed during the administration of sulphurous waters indicates an increased metamorphosis of albumen. The syphilitic products which appear, are, however, formed at the expense of the disintegrating albumen. Normal metamorphosis of tissue is characterized by continual disintegration of albumen. Pathological syphilitic tissue-change manifests itself by *increased* albuminous disintegration, proved by augmented excretion of urea.

Regarding the therapeutic indications to be gathered from Güntz's observations, he says that where mercurialism begins to show itself we can safely intermit the medicine, knowing that several weeks will elapse before its effect is exhausted. The inunction treatment for interrupted periods, with the simultaneous internal administration of minute doses of mercury, forms, according to Güntz, the best treatment of syphilis. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 10, 1877.

EDITORIAL.

TURKISH MEDICAL SERVICE.

THE portrayal of the state of medical science in Turkey, which we recently laid before our readers, had prepared us to believe almost anything in regard to the medical service of the Turkish army; but in diabolical coolness of decision, certain official measures, which now appear to be thoroughly established as practised in the Turkish army, exceed anything we have conceived of.

The medical staff is so inadequate in numbers and quality that it may be said not to exist, and the condition of the sick and wounded in many places, practically, to be that of abandonment. Scurvy, fevers, dysentery, gunshot wounds, vie with one another in the race of destruction, unchecked and uncombated. Where there is a doctor, there is usually an ignoramus; and where there is not an ignoramus, there are no supplies: *par exemple*, in a recent exchange we read of the "usual method of Turkish amputation,"—namely, a circular incision to the bone, followed by the saw; and of a doctor who displayed with great éclat the novelty he had invented of cutting the skin below the point of division of the bone and dissecting it up so as to get covering for the latter; also of a doctor, alone at an important post and unembarrassed by medicines or dressings, who was removed because he had finally telegraphed back to his superiors that he was not a magician, who could cure the sick and wounded without medicine or material. Again correspondence from the Turkish front is overflowing with accounts of incidents like that which is recorded by Dr. Stoker as occurring near Shipka Pass, six thousand wounded and only four

surgeons in attendance, or as happened some time after the affair at Keril-tepi, when three hundred and seventy wounded were transferred to a khan at Kars, and left three days not only without medical aid but absolutely without food.

A number of English surgeons have gone to the front to alleviate the sufferings, but their reception has usually been such as to chill the most ardent. Supplies are utterly wanting, unless taken with the surgeon, and in very many, if not most, cases, the visiting surgeon has been forced to furnish the transportation at his own expense and in the face of more than official indifference. English surgeons are fortunately men of muscle,—at least those who go to Turkey seem to be,—and, as in the case of Dr. Grover, command respect by beating Pashas' servants into a jelly. On the whole, as the *Lancet* puts it, it is a struggle of the English aid societies to compel the Turks to receive help for their sick and wounded.

Some time since, a report reached this country that the Turkish authorities had, in some cases, refused to allow amputation, because the men when they recovered would have to be supported by the Government. This seemed incredible; but the matter has become a subject of diplomatic correspondence, and the allegation appears to be true.

The principal Turkish medical officer at Erzeroum refused to allow Drs. Carrow and Featherstonhaugh to amputate, because "it was better that the men should die than that they should become burdens on the Sultan." Drs. Carrow and Featherstonhaugh at once intimated their return to England, when Ismail Bey, being frightened, gave way to their desires. It is said that the English ambassador at Constantinople was indignant at the tone assumed by Dr. Carrow! so much for habitual intercourse with the Turk. The position taken by Ismail Bey seems to be in accord with that of his Government.

According to the correspondent of the *London Times*, the regulations prescribe the following course when an amputation is thought to be required by the attending surgeon:

"The doctor in charge of the patient makes a report to the principal medical officer, who himself visits the hospital, examines the man, and, if he considers amputation necessary, lays the whole case before the Military Committee of the district, who decide as to whether the operation shall be performed or not."

This being the case, it is not surprising that the *Times* correspondent writes,—

"After conversation with doctors of all nationalities, I cannot learn of one single instance in which permission to amputate has been accorded by any of the three medical officers, either here, at Kars, or at Ardahan."

The query naturally arises, if this is the way Turk treats Turk, how does Turk treat Russian? It is noticeable that discourses about the "Gentle Turk" seem to be less frequent than they were.

THE most extraordinary athletic feat on record has just been performed in England by a man, æt. 44, named Wm. Gale, who is described as being under the average height, and not of marked muscular development. He successfully walked fifteen hundred miles in one thousand consecutive hours, the mile and a half being walked in the beginning of each hour. For six weeks, therefore, he had no nap of more than half an hour's duration. His physician gives (*Medical Press and Circular*) the following account of his condition at the close of the ordeal. Ten pounds of weight were lost during the walk.

"On the afternoon of the final day, Saturday, October 6, I again visited him between 3 and 4 P.M., and on his coming off the track into the adjoining hut he threw himself on the couch, and complained of feeling very cold; and, indeed, his hands and arms were quite cold up to the elbows. The pulse was 80, feeble, and very irregular. This state of collapse may have been partly due to his having imprudently taken a cold shower-bath

an hour before. I immediately gave him a cup of brandy and egg, and had the hut cleared of all persons excepting his brother and sister. In ten minutes some reaction commenced, and he turned on his side and slept quietly until the time-bell rang. After the next mile and a half he had evidently revived. He said that he then felt the blood circulating. I gave him, however, some more egg nourishment, with a little brandy.

"But after one or two laps, he walked at the rate of quite six miles an hour, responding yet more and more to the deafening plaudits. In a few minutes after the completion of the fifteen hundred miles within the time specified, I examined him, kindly assisted by Dr. Farr, of Earlswood, and Dr. McOscar. The pulse had risen to 88, but was quite regular; the heart's action corresponded, and there was no murmur at base or apex. The temperature, by the thermometer within the mouth, registered 106.1°. The man was quite rational and calm; the expression of his face not in the least haggard, and neither pallid nor suffused, but having the appearance produced by exposure to the sun and air. There was slight congestion of the conjunctivæ under the eyelids; the pupils were not dilated, and answered to the influence of light. On inspecting the legs, the calf of the left leg presented a large varicose patch, the external saphena vein having become dilated and tortuous, into an eel-like form. Not the slightest œdema of the legs had occurred, nor was there any swelling of the knees or ankle-joints.

"The feet were quite sound, excepting a slight blister under the ball of the right great toe. To conclude, there was no tendency to varicocele or hernia. After standing up for this part of the examination, and the lapse of twenty minutes, the pulse remained at 88, but had become feeble and somewhat irregular, and the temperature had fallen to 97.5°."

Such an exhibition as this may have a homœopathic amount of usefulness as showing that man is not degenerating, but is harmful as inducing weak-minded but strong-legged persons to injure themselves in like attempts.

The *London Lancet* tells of a man who walked "one hundred and sixty miles in forty-eight hours," with "thirty-five

minutes to spare," and died the day following his achievement. Death is a rare and sensational termination of such labor. For every case ending in this way, there are probably a score in which a degree of physical mischief is produced sufficient to impair the constitution, if not to kill.

PHILADELPHIA medical books seem to be appreciated upon the Continent of Europe. Dr. S. Weir Mitchell's work upon "Injuries of the Nerves," already published in Paris, is about to appear at Rome in an Italian dress. Liebreich, the discoverer of chloral, and professor in the University of Berlin, is translating Dr. Stillé's Therapeutics into German; whilst H. C. Wood's Therapeutics is being rendered into Italian under the auspices of the rector of the University of Padua, for use as a text-book in that venerable institution.

LEADING ARTICLES.

THE FREE DISPENSARY SYSTEM IN PHILADELPHIA.

PROFESSOR PEPPER, in his introductory address delivered at the late opening of the one hundred and twelfth session of the University Medical School, mentioned the enormous increase of free dispensaries in this country and Europe as one of the growing evils of the present day, and quoted the statement of an English authority to the effect that in London fully one-fourth of the whole population obtain the services of medical men gratuitously. As yet, so far as can be discovered, there have been no tables drawn up, nor estimations made, of the number of free patients in any of the great cities of the United States. It is likely, therefore, that a statement of the dispensary system in this city would be of considerable interest both to the medical profession and to the public at large. In pursuance of this idea, statistics have been obtained of every hospital and dispensary in the city of Philadelphia for the year 1876 (except in four cases, marked in the table with an asterisk, in which no report has been published since the year 1875), and from them has been made out

the following table, showing the year of foundation, number of out-door patients, number of visits paid by them, whole number of ward patients, and whole number of free ward patients, in forty-four institutions. The most careful inquiries made as to the existence of any additional charitable institutions in which any citizens of Philadelphia are received as free patients, have shown that the table includes in reality all the hospitals and dispensaries which at present exist inside the city limits. Private dispensaries have been omitted from the list, at least those which are avowedly such, as have also all those charitable institutions, such as the Naval Asylum, Christ Church Hospital, Girard College, and the House of Refuge, which were not endowed as hospitals, but which of course contain hospital accommodations for any of the inmates that may from time to time happen to be on the sick-list. All the figures in the table may be relied upon as entirely accurate, except those printed in bold type, where, no positive data existing, the result had to be reached by careful averaging. Of course, these figures may be slightly inaccurate; but so few cases in which this method was necessary have occurred, that the grand total could be but very slightly affected by the difference. In one or two cases it has been impossible to discover the date of the foundation of a hospital, and only in one or two instances has it been possible to note the birth of out-door departments of hospitals.

Some difficulty was experienced in drawing up the last column of figures, data of the number of free patients in the wards being only found in three or four cases. In seven hospitals all the in-patients were free. In thirteen cases (marked in the last column by an interrogation-point) no division was made between the two classes of patients. In these instances the number of free ward patients was estimated by applying the proportion of 1 to 5, which was found to hold between pay and free ward patients at the three hospitals where the distinction was made in the printed reports. As regards the percentage of ward patients not inhabitants of the county and city of Philadelphia, the number is shown to be so very small in those reports which consider the matter that it may with propriety be entirely disregarded, and particularly as most of those coming from a distance enter the hospitals as pay patients.

Name of Institution.	Year of Foundation.	Number of Out-door patients.	Number of visits paid by Out-door Patients.	Whole Number of Ward Cases.	Whole Number of Free Ward Cases.
Pennsylvania Hospital	1751	3,563	16,506	1,773	1,440
Philadelphia Hospital*		2,588		8,507	8,507
		(district visits)			
{ Philadelphia Dispensary.....	1786	15,714			
{ Ear Department of Philadelphia Dispensary.....		2,894	24,108		
{ Obstetrical Department of Philadelphia Dispensary.....		290			
Friends' Asylum for the Insane.....	1814			121	101 (?)
Northern Dispensary.....	1817	20,391		79	79
Southern Dispensary.....	1817	6,266			
Philadelphia Lying-In and Nurse Charity	1828	436		513	428 (?)
Wills Hospital.....	1832	3,575		458	382 (?)
Preston Retreat.....	1836			160	160
Jefferson Medical College Dispensary.....	about 1838	3,500			
Insane Department of Pennsylvania Hospital.....	1841			680	92
House of Industry Dispensary.....	1846	3,393	10,179		
St. Joseph's Hospital.....	1849	1,100		600	500 (?)
Episcopal Hospital.....	1851	11,954	23,369	1,417	1,215
Howard Dispensary.....	1853	6,719	20,540		
Children's Hospital.....	1855	6,519	13,221	198	165 (?)
Charity Hospital.....	1858	7,103			
Woman's Hospital.....	1861	6,070		313	261 (?)
German Hospital.....	1864	452	726	415	346 (?)
Jewish Hospital.....	1865	500		218	182 (?)
Municipal Hospital.....	1865			88	88
St. Mary's Hospital.....	1866	2,551	8,040	646	490
German Eye and Ear Infirmary.....	1866	No longer in existence.			
Orthopædic Hospital.....	1867	1,800		124	103 (?)
Church Dispensary*.....	1867	8,509		16	16
Germantown Homœopathic Dispensary.....	1869	Did not exist after 1872.			
Eye and Ear Infirmary.....	1869	No longer in existence.			
Germantown Hospital.....	1870	458	1,217	77	64 (?)
Dispensary for Skin Diseases.....	1871	371	2,368		
State Hospital for Women and Children*.....	1872			56	56
Presbyterian Hospital.....	1872	1,571	4,014	571	476 (?)
Throat and Ear Clinic.....	1872	Broke up in a year or two.			
University Hospital.....	1872	5,026		657	548 (?)
North-Eastern Dispensary.....	1872	Has degenerated into a private affair.			
Gynæcological Hospital.....	1874	230			
Philadelphia Ear Infirmary*.....	1874	350			
Mission Hospital.....	1874	5,334	14,272	19	19
St. Christopher's Dispensary.....	1875	1,305	2,860		
St. Christopher's Hospital.....	1876	No report yet out.			
Children's Homœopathic Hospital.....	1877	No report yet out.			
Homœopathic Hospital.....		4,598		190	158 (?)
Southern Homœopathic Dispensary.....		No longer in existence.			
Northern Homœopathic Dispensary.....		Broke up early in 1876.			
Chestnut Hill Hospital for Nervous Diseases.....		No answer to inquiries received,—is said, on good authority, to be private.			
Total, 44 Institutions.....		135,090		17,896	15,876
Total number of free patients, 135,090 + 15,876 = 150,966.					

The census of the city of Philadelphia, taken by the police department in April of 1876, showed the total population to be 817,448, a gain of 143,426 on the census of 1870. According to the same census (1876), the number of physicians in the city amounted to 1300: 1090 allopaths, 178 homœopaths, and 32 eclectics. This total is confirmed by a careful revision of Butler's Medical Directory for 1876. [According to the United States Census of 1870, the number of doctors in this city at that time was 1077.] Supposing all the

population of the city to be obliged to pay for medical treatment, we should have but 630 units of population to each doctor; while according to the latest and most reliable calculations each doctor requires a community of from 1500 to 2500 persons for his support. Matters would be bad enough in our supposed case; but what is the actual reality? The table shows a total of 150,966—135,090 dispensary patients and 15,876 free ward patients—to be subtracted from the sum total of population as non-paying cases. This leaves a popula-

tion of 666,482 to support 1300 doctors, or only 512 souls to each doctor: As the medical profession is of necessity a mutually obstructive profession, one man rising to the top only to push others down, or, to speak more intelligibly, one physician increasing the number of his patients only to take them away from some other physician, it will at once be seen what a slim chance of earning a living is left for the rank and file of the profession, particularly those that live in healthy localities.

To take another view of the subject: the reports of thirteen institutions for the gratuitous relief of the sick give not only the number of patients that visited them during the year 1876, but also the number of visits paid by these patients: 47,144 patients and 141,420 visits paid, or just three visits for each patient. This proportion of one to three is not only the general average, but was also the proportion suggested by the resident physicians at several of the larger dispensaries where the inquiry was made as to the average number of visits paid by each poor person. Multiplying 135,090, the whole number of out-door patients, by 3, we get 405,270 as the whole number of visits paid to the various dispensaries in 1876. Supposing that each of these poor people, instead of going to the dispensary three times during the year, were to call in a doctor, and pay him only fifty cents a visit, we should have a grand total of \$202,635, enough to divide among 81 doctors at the rate of \$2500 each; and this does not include the free ward patients. Of course this yearly total of sick people who attend the dispensaries represents a much larger number of the population.

A fact which the above table also illustrates quite clearly is that homœopathic dispensaries are short-lived and find but few patrons; proving that the vast majority of homœopathic believers are to be found among the middle and upper classes of society. At the present day there is only one homœopathic dispensary in operation, so far as can be discovered.

Looking at the dates of foundation of the various hospitals and dispensaries, it will be seen that between 1751 and 1828 six institutions were started (the Almshouse probably dates back its origin to before 1828); between 1828-1838 three were started; between 1838-1848 three; between 1848-1858 four; between 1858-1868 nine; while since 1868 no less than

nineteen hospitals and dispensaries have been founded (the homœopathic dispensaries are included in this number). This has evidently been at a rate entirely disproportionate to the wants of the community. The number of these institutions has doubled since 1865, while the population has only increased at the rate of twenty-one per cent.

It must be also remembered that the total number of dispensary patients during the year 1876 does not by any means express the sum total of cases where medical advice has been given gratuitously during that time. The 1300 doctors and upward of 650 clergymen that the city contained in 1876, and their families, were all probably attended without pecuniary recompense. To these must also be added the private dispensary patients. Altogether the grand result would not fall far short of 175,000.

Some months ago a letter was published in the *New York Medical Record* from a resident of Waterbury, Connecticut, to the effect that when a poor person in that town desired medical attendance, a certificate was taken from the town officials to the doctor, who then drew his fee for services from the municipal treasury. This little episode, though not by any means a solution, might well stand as the title for a long dissertation upon misplaced medical charity. That the evils of the present system of free dispensaries are self-evident, every one who has thought upon the subject allows; but no step has yet been taken in the direction of reform. When we come to look closely at the question, we are all obliged to admit that the city contains but few, very few, people outside of the almshouse so poor that they cannot afford to pay a doctor a small fee for each visit made. The worst of the matter is, that the majority of medical charities never stop to inquire into the financial status of an applicant for advice and medicines, and that the long line of patients waiting their turn to consult the dispensary doctor shows not a few individuals so well dressed and so well-to-do-looking as to cast a very serious doubt upon their supposed inability to pay for doctors' attendance. Nay, more, the instances are beyond counting, of men and women of undoubted means who prefer exposure before a room-full of medical students to paying for a doctor at home.

The clinics daily held at the University, Jefferson, and Pennsylvania Hospitals are supposed to justify their respective out-door departments in soliciting as large a number of patients and as great a variety of cases as possible from which to select interesting subjects for the lectures. But even in these exceptional cases, care should be had that none of those who present themselves for treatment are able to pay for private medical attendance. The temptation to hold on to all new and rare complaints that come to hand, whether they occur in high or low, for the purpose of valuable clinical instruction of medical students, is indeed a very strong one, but it should be at the same time remembered that it is setting a very bad example, and but too often disastrously overstretching medical charity. If this be so at the medical clinics, what shall we say of the dispensaries yearly prescribing for twelve, or eighteen, or twenty, thousand persons, whose diseases serve no scientific purposes of illustration, and the vast majority of whom are either in need of no treatment at all or abundantly able to pay, not large, perhaps, but certainly moderate fees for doctors' visits? It would only be a cause of trouble and unpleasantness to mention names, but cases have frequently occurred in my own notice and hearing of people of undoubted wealth, worth say from ten to fifteen thousand a year, receiving some little injury or suffering from some little complaint and going regularly to the resident doctor at a neighboring dispensary for treatment, and when cured never offering to pay a cent, nay, even carrying away free medicines with them daily without dreaming of payment. Now, I do not mean to say that these cases are at all numerous; on the contrary, it can only be a very mean spirited man or woman of wealth who would thus avail himself or herself of free dispensary advantages; but they serve to point the moral of my story. At the other pole of the subject, I know of one dispensary in town, and that a regularly established one, several of whose attending physicians told me that the place was among other things a regular resort for vagabonds and "loafers," who did not need medicine in the least, but who came to the dispensary simply to "drive dull care away" and to get a little sweet medicine, "a little syrup or something." Again, I might cite the case of another of the prominent free dispensaries in town

where whisky was frequently and with perfect propriety prescribed for anæmic, ill-fed, sickly-looking children. One of the servants of the place was surprised to see upon one occasion a woman with a wee little sickly baby in her arms suddenly stop just outside of the dispensary door and drawing the cork out of a bottle she held in her hands, apply said bottle to her mouth and rapidly dispose of the contents. After this little manœuvre had been noticed several times, the attending physicians began to understand what became of all the whisky. This happened at a dispensary where several thousand dollars are annually given away in the shape of medicines for the poor. One more, somewhat amusing incident, and I have done. A well-dressed lady walked into one of our city hospital dispensaries, and, in her turn, was admitted into the private room. A somewhat sickly smile of recognition was seen to light up the dispensary doctor's countenance. "Oh, doctor," said the lady, "I think I owe you a little bill." She took out her purse and paid the long-owing bill for private attendance, and then proceeded to state her complaint and obtain gratuitous treatment *like any other poor person*. Could there be better illustrations of the way in which the dispensaries are pauperizing the community? Do not let it be thought that these instances are in the least apocryphal: on the contrary, they are true.

The good people of Philadelphia most trustfully believe that all the money which they annually turn out of their pockets into the dispensary coffers will some day return to them a hundredfold, and never stop to think for one sober moment upon the thousand mistakes daily committed under the alluring title of "free medicines and free medical aid for the sick and deserving poor." They are confident that in every dispensary the management is centred in most excellent hands, and that financial matters are executed in a manner entirely honest and altogether above question; they know that hundreds of young doctors are deriving most useful daily *experience* (young doctors nowadays never think of pecuniary recompense for their services) from the thousands of cases under their immediate control; they never stop to look behind the scenes, and in their most praiseworthy ardor never dream that they are committing in many instances, though

perhaps in a somewhat milder form, the same vital mistake as when they give a worthless, unknown beggar (though in this case he is not always by any means an avowed beggar) ten cents at their door. To paraphrase somewhat a well-known saying, "O charity, how many irremediable errors are committed in thy name!"*

SAMUEL M. MILLER.

CORRESPONDENCE.

NEW YORK, October 27, 1877.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES:

DEAR SIR,—At a meeting of the Academy of Medicine, October 4, Dr. V. P. Gibney read the report of a case of *tubercular meningitis* which recovered under the use of ergot. He prefaced it with the statement that he had had unusual facilities for the study of this disease, and that he had long been skeptical in regard to recoveries from it; but, nevertheless, he could not but believe that his diagnosis in the case was correct.

The patient was a child in the Hospital for Ruptured and Crippled, who had been suffering for a considerable time from disease of the hip-joint, and whose family history was such as to render it highly probable, at all events, that the affection was tubercular in character. The father was a drunkard, and died, at the age of forty, of disease of the heart; while the mother died, at the age of forty-four, from phthisis. Before the attack commenced (a little more than a year ago), the child had been suffering from a severe abscess in the groin. Many of the characteristic symptoms of tubercular meningitis were present, while some of them were lacking. Vomiting was the first one noticed, and one of the most marked features of the case was the obstinate constipation, which it was very difficult to relieve. On the first day the pulse went up to 136, and the temperature to $103\frac{1}{2}^{\circ}$. On the second day the temperature was 101° in the morning and $102\frac{3}{4}^{\circ}$ in the evening, and on the third day it was $100\frac{1}{2}^{\circ}$. On the fourth day the temperature was $100\frac{3}{4}^{\circ}$, and the patient remained for the most part in a semi-comatose condition, while the progressive loss of flesh was most marked. The pulse was now intermittent in character, and the pupils were dilated. The bitartrate of potassium and jalap, and even croton oil, having failed in overcoming the constipation, a quarter of a grain of elaterium was given, and ergot (half a drachm of the fluid extract) was now for the first time administered. The latter, however, was not

retained by the stomach. On the fifth day the pulse was 96, respiration 28 and of a sighing character, and the temperature 101° . The child complained of headache when roused, but for the most part remained in a somnolent condition. A drachm of the fluid extract of ergot was given every three hours, the patient being made to take cracked ice just before its administration; but, notwithstanding this precaution, it was frequently vomited. Enemata were now given with success for the constipation, and from this time were repeated daily. On the sixth day the first signs of improvement were noted, and the patient gradually grew better until the fourteenth day, when convalescence seemed fully established. In the mean while the ergot had been diminished to half-drachm doses and given at less frequent intervals. About the fifteenth day, however, there was a return of the obstinate constipation, and on the seventeenth day there seemed to be a relapse of the disease, the temperature running up to $102\frac{1}{2}^{\circ}$, and quite profound stupor setting in. The ergot was now given in the form of the solid extract, about two grains every two hours, and in a short time all the unfavorable symptoms again passed away. From this time there was no outbreak of the disease until June, 1877, when another relapse seemed to take place; and again it appeared to be readily controlled by the ergot, which was now given in drachm doses of the fluid extract three times a day. The child is still in the hospital, and is now doing as well as can be expected with the severe disease of the hip from which it suffers. The child is somewhat deaf, which may be due either to the meningitis or to some old inflammatory trouble in the middle ear. In summing up the points of a differential diagnosis of the case, Dr. Gibney excluded septicæmia on account of the temperature-record, and catarrhal pneumonia at the apex of the lung (once or twice there was bloody expectoration) on the ground that the physical signs were lacking, and also that if the disease had been severe enough to produce the symptoms noted, the child would inevitably have died. Neither did there seem to be any reason for supposing it to be a case of typhoid fever of unusual type, attended with constipation and an irregular temperature-wave. In making a diagnosis between cerebro-spinal, simple basilar, and tubercular meningitis, it was certainly reasonable to presume that the affection was of the latter character, from the antecedents of the case and the existing strumous disease of the hip. There had been no convulsions in the case, simply for the reason that the convulsive stage of the disease had not been reached; and Dr. Gibney made the remarkable statement that he felt confident of being able to control, by the early exhibition of ergot, any future attack of meningitis that might come on while the child was still under observation at the

* Thanks are due to Robert B. Cruice, M.D., secretary of St. Joseph's Hospital, and to Wm. H. Bennett, M.D., attending physician to St. Christopher's Dispensary for Children, for information afforded relative to the above institutions.

hospital. In similar cases he recommended the free use of ergot, preferably in the form of the fluid extract, or in that of the solid extract, if that was not well borne. In case convulsions were present, he advised it to be given hypodermically. Ice-bladders should be kept constantly applied to the head, and daily enemata given. In addition, it was absolutely essential that the patient should be surrounded by perfect quiet, supplied with the most nutritious diet, and nursed in the most careful manner.

A number of gentlemen took part in the discussion which followed the report of this interesting case; some of whom coincided with Dr. Gibney in his opinion of the case, while others were rather skeptical as to the diagnosis of true tubercular meningitis. Dr. John C. Peters thought the case might possibly have been one of acute cerebral anæmia, resulting from the wasting disease from which the child was suffering, and was of the opinion that all the symptoms detailed might thus be accounted for; though he was willing to acknowledge that in exceedingly rare instances recovery from tubercular meningitis seemed to take place. He had for many years made a careful study of this disease, having presented two cases to the Pathological Society as early as the year 1845, and had never known a case to recover in which he thought the diagnosis well made out. As a rule, he believed that patients suffering from tubercular meningitis were also the subjects of general miliary tuberculosis, and in every autopsy that he had made after this disease he had found this to be the case. In 123 out of 138 tabulated cases general tubercular deposit was found after death.

Dr. Dupuy remarked that twenty-five years ago in Paris all patients suffering from tubercular meningitis were left to die, under the idea that recovery was impossible, until at last one of them recovered spontaneously; when the physicians began to think that it might be worth while to do something for the disease after all. Since then a number of well-attested recoveries had been reported. In some instances he had seen Calabar bean act very happily, and in others the bromide and iodide of potassium. One physician, of Zurich, had reported no less than thirty-four successful cases, which were, for the most part, treated by large doses of calomel. Absolute proof that patients do sometimes recover was furnished in the fact that the remains of old tubercular trouble have been found in those who succumbed to a second attack of the disease. In tubercular meningitis he believed the chief danger to be the poisoning of the blood by effete matter, the effect of which was like a narcotic poison. One evidence of this is the gradual falling of the temperature; so that one of the great indications in the treatment is to keep the temperature up to the normal standard. He

recalled one case in the Hôpital des Enfants Malades in Paris, in which he believed life had been preserved by keeping the patient in a bath of 98°. He had found one diagnostic point of value furnished by the sense of smell. Patients suffering from tubercular meningitis exhaled an odor strikingly resembling that of wet linen. The characteristic odor of tetanus, on the other hand, was that of a wet cloth coat.

Dr. Salvatore Caro thought Dr. Gibney could hardly claim priority in the use of ergot in this disease, for he had long ago seen it noticed by European writers, and believed that it was now quite a common practice to employ this drug in all the various forms of meningitis. Personally he had used it with success in the tubercular variety; and he said that he had also met with good results from the carbonate of iron (in doses of two or three grains every two or three hours), as well as from the bromide of potassium. From the extraordinary manner in which Dr. Caro talked of curing tubercular meningitis, one might suppose it was an affection about as amenable to treatment as an ordinary bronchial catarrh.

An exceedingly interesting session of the Academy was held October 19, when Dr. Fordyce Barker made an address on the *Obstetric Forceps*, with a demonstration of the forceps of M. Tarnier, and its new principles. The first part of it was devoted to a *résumé* of the history of the forceps and the revolution that has taken place in its use, particularly in Great Britain; and he attributed the infrequency of its employment formerly to three causes: 1, ignorance of the mechanism of labor; 2, failure to recognize the dangers, both to mother and to child, from prolonged labor; 3, the confounding of the difficulty met with, and skill required, in applying the forceps at the superior and inferior straits. The change was perhaps most noticeable in Dublin, where George Johnson, master for some years of the Rotunda Lying-in Hospital, applied the forceps once in every 11½ cases; while his predecessors, Clark and Collins, only applied it once in about every 700 cases. Dr. Barker made an eloquent plea for the still more frequent use of the forceps in this country than is at present practised, and spoke particularly of the advantage of the instrument in preventing rupture of the perineum, and in avoiding the dangers of delay by its application at the superior strait in appropriate cases. During a practice of twenty-five years he had never had a laceration of the perineum sufficiently serious to require surgical interference. The essential requisites for the application of the forceps at the superior strait he considered as follows. 1. The operator should thoroughly comprehend the reason why the instrument is required, or, in other words, why the *vis a tergo* is not adequate to

accomplish the delivery. 2. He should understand the mechanism necessary to overcome the difficulty when ascertained. 3. He should operate very slowly. The great temptation is to go ahead too fast; but Dr. Barker said that personally he never occupied less than thirty minutes in bringing the head through the superior strait; generally he took about forty-five minutes, and sometimes over an hour. 4. He should have a good instrument. He himself was in the habit of using Simpson's forceps almost exclusively, and considered it very perfect; though he occasionally wished he had a pair of Dubois's (or White's, which is the same thing) with him. The short forceps he frequently applied without changing the position of the patient.

Lately a great excitement has been caused in France by Tarnier's new forceps, and while a large number of eminent men are advocating its use, some of the best authorities, among whom is Pajot, are strongly opposed to it. It has been called the "needle forceps," from the fact that the handles serve as an indicator (like the needle of a mariner's compass) to show in which direction traction ought to be made; and its distinctive characteristics are its peculiar curve, and two metallic tractors attached to the blades separately from the handles. Theoretically, it is designed to accomplish the following results. 1. To cause traction always to be made in the direction of the axis of the pelvic curve. 2. To allow the foetal head such mobility as to admit of its passing through the pelvis and soft parts in the varying position which it would assume during a natural labor. Ordinarily its movements are governed entirely by the forceps. 3. To furnish a guide to indicate to the operator exactly in what direction traction should be made all through the delivery.

In using the ordinary forceps at the superior strait a considerable portion of force is lost by the necessary pressure against the pubes and soft parts anteriorly, and at the inferior strait still more force is wasted. In addition, the pressure is positively injurious to both mother and child. It is injurious to the child because the greater the amount of traction employed, the greater the compression of the head. Dr. Barker said he had been much pleased with Tarnier's forceps theoretically, but was not willing to commit himself as advocating it until after giving it a fair trial. As yet he had only had the opportunity of applying it in one case, an occipito-posterior position, and in that it had converted the vertex into a face presentation; but the same thing would have occurred in the case if he had used any other forceps. Various objections have been urged against Tarnier's instrument; one of them proposed by Pajot is, that it is apt to do injury to the tissues composing the posterior wall of the pelvis. Another objection, which had suggested itself to Dr. Barker, was in reference to

the lock, which is of such a character as to deprive the operator of knowing just how much compression he is employing. After the conclusion of Dr. Barker's address the subject was discussed in a very forcible and entertaining manner by Professors White, of Buffalo, Lusk, and Isaac E. Taylor. They all spoke in opposition to the new instrument, which Dr. White characterized as a "useless bit of toggery," while he prophesied that in twenty years from now it would be seen only in collections, like the old Chamberlain forceps; but I regret that lack of space will prevent me from giving any details of their remarks.

At the last meeting of the New York Public Health Association, Dr. E. G. Janeway, in a report from the Standing Committee on the sanitary condition of New York and vicinity, showed that the health of the city during the last three months of 1876 and the nine months of 1877 ending October 1 has been better than for several years previously. Only fourteen deaths from smallpox have occurred since the 1st of January last, and during the past four months not a single case of the disease has been reported. Dr. Janeway was of the opinion that if every case of smallpox were promptly reported as soon as discovered, the disease could be practically stamped out, and gave an instance to show the evil results which followed when a case was not made known to the health authorities. Some months ago a man was reported to have died in a down-town tenement house, of pneumonia; but, as there seemed to be some suspicious circumstances about the case, he went himself to investigate it, and found the corpse completely covered with the eruption of confluent hemorrhagic smallpox. This case, as well as a number of others, he ascertained had originated from a child in the house who had been suffering from varioloid, the drying scabs of which were still noticeable on its body. Diphtheria and all the other zymotic diseases, with the exception of scarlatina, have been less prevalent during the last few months than for several years previously, and the mortality from diarrheal affections during the past summer has also been less than usual.

After some discussion upon Dr. Janeway's report, Mr. Charles Barnard, in the absence of Dr. Willard Parker, its president, read the report of the Committee on *Provident Dispensaries* appointed last May. During the interval that has elapsed since then the Committee have made an investigation of the cases of about 150 families, members of which had applied for medical aid at the free dispensaries, and they have arrived at the following conclusions: that those families whose income is but ten dollars a week and under ought to have free medical attendance; that those whose weekly income is over ten and under twenty dollars can afford to pay ten

cents a week to a provident dispensary; and that those whose income is twenty dollars and over should be compelled to pay for the services of a private physician. During the summer Drs. C. R. Agnew and D. M. Stimson, at the request of the Committee, made inquiries into the working of the provident plan in England, and found that it was very satisfactory and met with the approval of the best authorities. In consequence of the favorable nature of the report of the Committee, a resolution was passed by the Association recommending that the various free dispensaries of this city organize provident systems in connection with their present work, and require all patients who can afford it to avail themselves thereof, or else be refused treatment.

Some of the daily papers have been commenting rather severely, on the College of Physicians and Surgeons for refusing to admit a negro student from Costa Rica. The Faculty defend their action principally on the ground of expediency, claiming that it would be detrimental to the interests of the college to have colored students attend lectures there.

At the first meeting of the Medical Journal Association this season, Dr. E. C. Angell read a paper on "*Ancient and Modern Insolation or Solarization*," which showed evidences of no little research, and which will, no doubt, form a contribution of some value to the interesting and important subject of heliosis or solar therapeutics.

For the past twelve years Dr. Angell has made use of the sun's rays as a remedial agent, and has met with a very fair measure of success in so doing. In every case of acne that he has tried solarization the patient has been cured; while in one case of chronic and obstinate eczema the affection yielded to three treatments of one hour each. Of two English gentlemen who were suffering from dyspepsia, one gained ten pounds in three weeks, and the other twenty pounds in six weeks, and both were cured of their trouble. But, as a rule, the first effect of insolation is to cause a loss of weight; while the patient gains correspondingly in buoyancy and vigor. A case of chronic bronchitis was cured by twelve treatments of an hour and a half each, one hour being spent in the direct rays of the sun, and half an hour under glass.

Dr. Angell thought the blue-glass furore had at least been of service in calling public attention to the real value of the effect of the sun's light on the human economy; though he was exceedingly skeptical in regard to General Pleasanton's whimsical philosophy. There was no essential therapeutic effect in any particular color, said he, but blue glass was useful in cutting off a considerable part of the heat and light of the sun, while it retained the active rays in about their normal force. Blue glass might be of great service to those individuals who were too weak to bear

the full power of the sun, just as blue goggles were grateful to a person with weak eyes; but, like the goggles, it was to be discarded as soon as he was able to bear the strong sunlight. To receive the greatest amount of benefit, the whole body should be exposed, and if to the direct rays of the sun, it should be anointed with some unctuous substance, which might be repeated at the end of half an hour. The direct ray is of the most service, and, in combination with the wind, imparts a beautiful bronze hue to the skin. Dr. Angell then went on to describe the best method of constructing a solarium, and concluded his paper by recapitulating some of the affections in which the sun-bath was most serviceable, and which were mostly of a chronic nature, such as gout, rheumatism, acne, neuralgia, bronchitis, and asthma. He believed it to be also very useful in saving the stout from fatty degeneration.

Dr. Sayre returned from Europe about the 1st of October, and was greatly benefited in health by his trip, notwithstanding the extraordinary amount of work he succeeded in accomplishing while on the other side. During his brief sojourn in England and Ireland he not only wrote a book, but "put up," with the skillful assistance of his son, Dr. Lewis Hall Sayre, no less than 170 spinal cases, in public and private practice; and his demonstrations at all the principal hospitals of London, and in the cities of Manchester, Birmingham, Liverpool, and Cork, according to the *British Medical Journal*, "proved to be of so deeply interesting a character, and were delivered with so much genuine enthusiasm and intensity, and contained so many traits of humor and tenderness, that they created the highest enthusiasm on the part of his hearers." The same journal acknowledges that the use of the plaster-of-Paris bandage in angular and lateral curvature of the spine "constitutes a new era in that department of surgery, and its already proved success entitles us to say that this method of treatment will prove an inestimable boon to thousands of persons now and hereafter." His work, which has been brought out in very handsome style by Messrs. Smith, Elder and Company, of London, bears the title of "*Spinal Disease and Spinal Curvature, and their Treatment by Suspension and the Use of the Plaster-of-Paris Bandage*." It is amply illustrated by wood-cuts; but what makes it almost unique is the large number of elegant photographs which it contains. These are arranged for the most part in series of four, showing in a very admirable manner the patient before, during, and after the application of the plaster jacket, and also after recovery or marked improvement has resulted. Dr. Sayre has offered a prize of \$200, open to graduates of Bellevue College, for the best essay on the pathology of Pott's disease of the spine.

P. BRYNBERG PORTER.

REVIEWS AND BOOK NOTICES.

JOHNSON'S UNIVERSAL CYCLOPÆDIA: A SCIENTIFIC AND POPULAR TREASURY OF USEFUL KNOWLEDGE. Volume I. A to E. New York, Johnson & Son.

Fairly and exhaustively to review a publication of this character would necessitate an amount of talent and of knowledge only comparable to that which has produced it; but no scholar, however humble, no individual who has daily occasion in his office or counting-house rapidly to refresh his memory or to acquire new information on any subject connected with any department of human knowledge, can fail to recognize in this Cyclopædia one of the most valuable recent additions to English literature. In conciseness, clearness, comprehensiveness, and especially in originality, it far exceeds any work of the kind which has been published in late years. Where there are so many recommendations to popular favor it is difficult to select the chief; but perhaps the two points which most favorably impress the reader are the eminence of the contributors, and the fact that their names are in nearly every case appended to the articles which they have severally written. In this way, every element of doubt as to the reliability of any particular statement is eliminated, and one is able to refer to this work with a highly satisfactory feeling of confidence in the result.

In cases where the importance of the subject or the length of the article has not merited the especial attention of one of the more distinguished contributors, we find, nevertheless, that it has been carefully revised by some one whose name carries authority and weight. Many of the medical essays have in this way been corrected and endorsed by Prof. Willard Parker, of Columbia College; those on geology and allied subjects by Prof. Newberry, of the same institution; on botany by Prof. Asa Gray, of Harvard; on zoology by Dr. Theodore Gill, late Congressional Librarian; the names in the other departments being equally distinguished with these.

In another respect this Cyclopædia differs from most others, and that is in the absence of the "second-hand" flavor which is so apt to pervade works of this character. In the comedy of "Our Boys," where these unfortunate individuals are supporting themselves by furnishing "copy" for a new gazetteer, their only source of information being another one ten years old, they overcome one of their principal difficulties by the simple plan of doubling the population in each instance. This, though an original, was hardly a reliable method; but in the work under consideration the great majority of the articles have the rare merit of combining both originality and reliability, and the result is a series of monographs in the highest degree entertaining and

instructive. In glancing rapidly over the medical articles contained in the first volume, we notice, however, that they are not so full as are those upon legal, purely scientific, or industrial subjects, a distinction which is hardly a satisfactory one to a physician, though it may give the greatest satisfaction to the greatest number. In illustration of this, it may be mentioned that the subjects of "Amputation," "Apoplexy," and "Aneurism" are dismissed with a few lines each, while "Apportionment" occupies a column, "Arrowroot" a column, and "Butter" a page and a half. Acupuncture is described, but acupressure, much more important, is not mentioned; alcohol is spoken of only in its chemical relations, no account of its therapeutic or poisonous effects being given. These are minor matters, of course, as there are few omissions, and the articles, as a rule, contain such information couched in such language as will be comprehensible to any non-professional inquirer. It would be useless to attempt to enumerate the especial articles connected with medicine and the allied sciences which are contained in this volume, but we may mention those on Blood, Baths, and Congenital Diseases, and especially those on Acoustics by Rood, on Comparative Anatomy by Cope, on Embryology by Dalton, and on Electricity by Morton. These and many others are of the very highest order of essays, and are typical examples of what full and comprehensive but at the same time clear and concise cyclopædia articles should be, but unfortunately seldom are.

Among the biographical notices of physicians we find those of Benjamin Barton, Dunglison, and Da Costa; but no mention is made of Rhea Barton, Carson, Agnew, or Ashhurst. We are at a loss to know what determined the distinction. A very insufficient notice of "Darwinism," by Prof. Youmans, is followed by a more elaborate criticism of the same theory by President Seelye, of Amherst. "Evolution" has been ably and thoroughly dealt with by Prof. Henry Harts-horne, whose article on this subject is one of the most admirable in the volume; though he only partially accepts the conclusions to which this great hypothesis has led the majority of scientists. The print, while small, is clear and distinct, and the volume, as a whole, reflects the greatest credit upon its authors and its publishers. J. W. W.

GLEANINGS FROM EXCHANGES.

HEMORRHAGE FROM THE HAND (*The Lancet*, October 13, 1877).—Mr. Maunder, in a communication relative to a case of bleeding from the hand which had necessitated several successive ligations, calls attention to a method of treatment which he says has not been advisedly used, but which will, in his opinion, obviate the need for multiple liga-

tions. His proposition is this: "Should hemorrhage recur *after* the brachial has been ligated, *compression* at the original wound would probably be effectual." Before the operation, the blood is thrown with force by the heart, and readily dislodges a clot and prevents repair. Thus, the flow of blood is direct; but, with a ligature intervening between the heart and the wound, the force of the circulation is considerably spent against that barrier, the blood arrives by a circuitous course, and nature's efforts at the seat of the wound in the artery are sufficient to withstand, *with compression added*, the impact of the blood.

Although in no instance in which Mr. Maunder has tied an artery at a distance from the source of bleeding has hemorrhage recurred, yet he thinks that his success must be regarded as *accidental*, because, the vascular chain being broken at the bleeding-point, the effects of reaction and the moment of the establishment of the collateral circulation cannot be foretold with certainty. It may be questioned whether, in the upper extremity at any rate, ligature of the brachial would be a remedy for a primary bleeding from the hand. Doubtless, the more or less exhausted condition in which the patients are when this operation is resorted to, consequent on repeated loss of blood, tends to a successful issue from one point of view,—the hemorrhagic. The operation is at variance with the sound principles of surgery of the arteries, but in these instances (hemorrhage from a doubtful source in an important region) an exceptional method is unavoidable.

Whether to ligature one or both arteries in the forearm, holding the brachial in reserve, or to tie this latter in cases of uncontrollable bleeding from the hand, is a vexed question still. He prefers the latter. It is further from the lesion, and lying among comparatively sound structures, where the wound is less likely to be contaminated by unhealthy secretions, and more ready to take on reparative action. The varying arterial distribution to the hand renders the result of deligation of the radial and ulnar vessels more uncertain. Repeated hemorrhages are both exhausting and alarming to a patient, while repeated operations are painful and harassing, and also discreditable to surgery in the estimation of the public.

NOTES AND QUERIES.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—Your issue of October 13, 1877, contained two letters denying that the cases reported by Dr. Hinton were examples of pityriasis rubra. I beg leave, with your permission, to submit the following as an answer to these communications. The diagnoses were made after careful consideration; and previous to bringing the cases before my class they were seen by Prof. Wm. H. Pancoast and Drs. Hinton and Sargent, who endorsed my opinion as to their nature.

When the symptoms of the cases mentioned in the article of the 15th of September are compared with the descriptions of pityriasis rubra given by eminent European dermatologists, I think it will be admitted that I was right in my designation. Mr. Fox, in his work on Diseases of the Skin, indicates that pityriasis rubra is not an unfrequent occurrence in his practice. Let me compare the chief points cited in his description of this disease with the main features exhibited in the cases reported by Dr. Hinton.

According to Mr. Fox, in pityriasis rubra patients are debilitated, pallid, and sometimes emaciated. The disease attacks the whole body. The body is covered by branny lamellar scales, that are yellow and flaky; in addition, it may be studded over with points, giving the appearance of goose-skin, or of a nutmeg-grater. The scalliness may be markedly imbricated in regular order, like the tiles of a house, with red hyperæmic surface exposed beneath these masses. The number of scales shed day by day may be prodigious. The patients are generally tormented by burning heats.

In the three cases reported by Dr. Hinton the patients were pale and emaciated. The disease attacked the entire body of each patient. Branny lamellar scales covered the body of each; in one case the skin of half the body was studded over with small elevations having the appearance of goose-skin. The scales were yellow and flaky, and on the arms, trunk, and limbs were imbricated. Scales were shed in prodigious numbers, leaving behind a very red surface. One case complained of a burning skin.

Prof. Hebra, representing the Vienna school, stated that after many years pityriasis rubra terminated fatally, but he differs from other authors in his views respecting this affection.

Prof. Hardy, of the French school, gives the symptoms and diagnosis of this disease in a clear and practical manner. I translate and quote below from his *Leçons sur les Maladies de la Peau*: "The second variety of pityriasis, as to color, is the pityriasis rubra, which is more rare than the former (pityriasis alba); in this disease the scales rest upon a red skin. They are larger and adhere more strongly than in the preceding variety, and are accompanied with itching and smarting. There is scarcely any other disease than pityriasis rubra which spreads over all the surface of the body. The diagnosis of pityriasis is generally easy, the diseases which resemble it being psoriasis, eczema, etc. One can only hesitate between psoriasis and pityriasis when it takes the form of pityriasis rubra; still, a little attention suffices to remove all doubt." The cases under my care had the same prominent symptoms mentioned by Prof. Hardy. It is suggested in one of the letters that the description of the affections as given might easily apply to psoriasis. I am quoted as saying, in the communication of September 15, that "in psoriasis the scales are finer and resemble mother-of-pearl, instead of presenting the yellow and flaky appearance of the scales in this case. If one of the scales in psoriasis is removed, a bleeding surface is visible." Now, Prof. Louis A. Duhring, in his *Treatise on Diseases of the Skin*, when giving the difference between pityriasis rubra and psoriasis, says, "*The scales, moreover, are very different in these two diseases, and are ALONE sufficient to establish the diagnosis.*"

I would say, in conclusion, that the article which had called forth the communications to your journal does not claim to be an elaborate dissertation on pityriasis rubra, but only, as its title indicated, brief notes of a clinical lecture on the treatment of this affection.

Yours truly,

J. V. SHOEMAKER.

We are in receipt of a letter from Dr. Lamadrid stating that he uses in hemorrhoids half an ounce (f3ss) of Squibb's fluid ext. ergotæ as an injection twice a day, and not half a drachm (f3ss), as stated in his recent article.

FOR CHAFED INFANTILE SKIN.

Powder the chafed parts with dry oxide of zinc. It will require but a few applications to relieve the severest case.

C. W. BROWN, M.D.,
Elmira, N.Y.

NEW YORK, October 19, 1877.

HORATIO C. WOOD, M.D.,

EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—In reply to the correspondent who desires a formula for "chafed infantile skin," allow me to recommend the following:

Sulphate of Morphia, gr. i;
Precipitated Carbonate of Zinc, 5i;
Vaseline, 3j.

To be applied every two hours.

White castile soap only to be used, or instead an alkaline wash.

If the case fails to improve, the above application should

be stopped, and instead the parts should be painted four times daily with a six per cent. solution of oleate of mercury for five or six days. Then the salve should be reapplied. As soon as a cure has resulted, the parts ought to be dusted with equal parts of lycopodium and precipitated carbonate of zinc for a few weeks.

Most cases will yield to the above treatment.

Yours respectfully,

F. E. BECKWITH,

Resident Physician to Nursery and Child's Hospital,
New York.

MARRIED,

On the 24th of October, Dr. Oscar H. Allis to Julia, daughter of the late Judge Oswald Thompson.

OBITUARY.

DIED, October 13, 1877, WILLIAM MASON TURNER, M.D., in the forty-second year of his age.

Dr. Turner was born in Petersburg, Virginia, in December, 1835. Having received the education afforded by the High School at Hicksford, in Greenville County, he entered at Brown University, Rhode Island, where he graduated with high honors in 1855. Coming to Philadelphia immediately after, he took his degree in medicine at the University of Pennsylvania in 1858, and then visited Europe to complete his studies. He spent much time at Paris, receiving instruction from Malgaigne, Velpeau, Brown-Séguard, Cazeaux, and Ricord while following their lead in the hospitals of that city. Early in the following year he made a tour through Egypt and Syria, keeping a daily journal of his observations that culminated in the publication of "El Khuds the Holy," a work replete with descriptions of the sacred places in the Holy Land, and meeting with much favor.

His contributions to medicine were many, through the journals of the day, and were marked by original thought,—always showing his great speculative ability in the sick-room. An article on diphtheria, contributed to the *Charleston Medical Journal* in 1860, and copied by the *London Lancet*, gained for him great praise; while his papers to the *Philadelphia Medical Times* were read with much profit.

Other literary channels engaged a portion of his time, as is attested by the many well-written romances published from time to time in two leading periodicals; while his poems commanded admiration for the Christian spirit that characterized them and which made them ever welcome in the household.

The affection that terminated the life of Dr. Turner was cerebral apoplexy,—the same that destroyed his father, Joseph Turner, Esq., a prominent lawyer of Petersburg, Va., and member of the Virginia Legislature, at the early age of forty-five years.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM OCTOBER 21, 1877, TO NOVEMBER 3, 1877.

By direction of the Secretary of War, a Board of Medical Officers is appointed to meet in New York City on the 7th day of November, 1877, or as soon thereafter as practicable, for the examination of Assistant-Surgeons for promotion, and of candidates for admission into the Medical Staff, U. S. Army. Detail for the Board: Surgeon JOSEPH B. BROWN, Surgeon JOSEPH H. BILL, Surgeon CHARLES H. ALDEN. Surgeon Bill is relieved from duty in the Department of the South. S. O. 223, A. G. O., October 30, 1877.

MURRAY, R., COLONEL AND SURGEON.—To report in person to the Lieutenant-General commanding the Military Division of the Missouri, for assignment to duty as Medical Director of that Division. S. O. 220, A. G. O., October 25, 1877.

HAMMOND, J. F., LIEUTENANT-COLONEL AND SURGEON.—To report in person to Commanding General, Division of the Atlantic, for assignment to duty. S. O. 217, A. G. O., October 19, 1877.

MCPARLIN, T. A., MAJOR AND SURGEON.—Assigned to duty as Attending-Surgeon in New York City, relieving Surgeon Hammond. S. O. 217, c. s., A. G. O.

ALEXANDER, R. H., MAJOR AND SURGEON.—Relieved from duty in Department of the Columbia, to proceed to Philadelphia, Pa., and, on arrival, report by letter to the Surgeon-General. S. O. 220, c. s., A. G. O.

FORWOOD, W. H., MAJOR AND SURGEON.—Relieved from duty at Allegheny Arsenal, Pa., to proceed to McPherson Barracks, Atlanta, Ga., and report to the Commanding General, Department of the South, for duty. S. O. 253, Division of the Atlantic, October 28, 1877.

HARTSUFF, A., MAJOR AND SURGEON.—Relieved from duty in Department of the Platte, and to report in person to Commanding General, Division of the Atlantic, for duty. S. O. 220, c. s., A. G. O.

JAQUETT, G. P., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Barrancas, Florida. S. O. 169, Department of the South, October 23, 1877.

BROOKE, J., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from temporary duty in Department of the Columbia, and to return to his proper station in Department of the South. S. O. 217, c. s., A. G. O.

GARDNER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to temporary duty in the office of the Medical Director of the Department. S. O. 169, c. s., Department of the South.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—To proceed to Fort Wadsworth, N. Y. H., and report for duty. S. O. 246, Division of the Atlantic, October 21, 1877.

SMART, C., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Platte, to proceed to New York City, and thence report by letter to the Surgeon-General. S. O. 220, c. s., A. G. O.

KINSMAN, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Division of the Atlantic, and ordered to Department of the Gulf. S. O. 224, c. s., A. G. O.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 124, Division of the Pacific and Department of California, October 11, 1877.

VICKERY, R. S., CAPTAIN AND ASSISTANT-SURGEON.—To proceed to Fort Hamilton, N. Y. H., and report for duty. S. O. 246, c. s., Division of the Atlantic.

HEIZMANN, C. L., CAPTAIN AND ASSISTANT-SURGEON.—To proceed to Fort Niagara, N. Y., and report for duty. S. O. 246, c. s., Division of the Atlantic.

KIMBALL, J. P., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to temporary duty at Carlisle Barracks, Pa. S. O. 246, c. s., Division of the Atlantic.

FITZGERALD, J. A., CAPTAIN AND ASSISTANT SURGEON.—Assigned to duty at Fort Boise, Idaho Ty. S. O. 153, Department of the Columbia, October 18, 1877.

PATZKI, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Platte, to proceed to New York City, and thence report by letter to the Surgeon-General. S. O. 220, c. s., A. G. O.

ELBREV, F. W., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from temporary duty in Department of the Columbia, and to return to his station in Department of the South. S. O. 224, A. G. O., October 31, 1877.

MATTHEWS, W., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Camp Bidwell, California. S. O. 128, Division of the Pacific and Department of California, October 20, 1877.

COWDREY, S. G., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and to report in person to Commanding General, Department of the Platte, for assignment. S. O. 220, c. s., A. G. O.

DICKSON, J. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Division of the Atlantic, and to report in person to Commanding General, Department of the Columbia, for assignment to duty. S. O. 220, c. s., A. G. O.

MOSELEY, E. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and to report in person to the Commanding General, Department of the Platte, for assignment. S. O. 220, c. s., A. G. O.

SPENCER, W. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the South, to take effect at expiration of his leave of absence, and report in person to Commanding General, Department of the Columbia, for assignment to duty. S. O. 224, c. s., A. G. O.

CORBUSIER, W. H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Division of the Atlantic, and to report in person to Commanding General, Department of the Platte, for assignment. S. O. 220, c. s., A. G. O.

PHILADELPHIA, NOVEMBER 24, 1877.

ORIGINAL LECTURES.

CLINICAL LECTURE ON FRACTURES OF THE FEMUR.

Delivered at Bellevue Hospital, N.Y., November 7, 1877,

BY FRANK H. HAMILTON, M.D.

Reported by P. BRYNBERG PORTER, M.D.

GENTLEMEN,—On entering upon my term of service at the Hospital on the 1st of the month, I found ten cases of fracture of the shaft of the femur in the wards. A number of these I propose to bring before you to-day; but, in order that you may properly appreciate the principles involved in their treatment, it will be necessary for me first to call your attention briefly to the progress which has been made in the treatment of this class of fractures during the last hundred years. My remarks, you are to understand, will be limited exclusively to fractures of the shaft of the femur, and will be still further limited to fractures of this character occurring in the adult. In fractures of the thigh in children there are material differences, to which it will be impossible for me to allude, for lack of time, on the present occasion.

In the first place, I wish to remark that fractures of the shaft of the femur in the adult are almost invariably oblique,—not moderately so, but extremely oblique, as a general rule. It is, therefore, impossible to make the fragments set, in the ordinary acceptance of the term; and they can only be maintained in position by extension and counter-extension. The powerful muscles attached to them necessarily make them overlap each other, giving rise to the hideous deformity which is seen in the two specimens that I now show you. In such a case the bulging noticed is always equal to twice the thickness of the shaft, even if there should be no callus to make it still greater. This, then, is the beginning of our study of fractures of the femur: they are oblique.

Now, how is this powerful action of the muscles of the thigh, causing the fragments thus to override, to be counteracted? Until the latter part of the last century (from the remotest periods, as far as we have any knowledge), surgeons were in the habit of employing a simple long straight

splint. By making extension and counter-extension they pulled the fragments out into position, and then applied the splint to the side of the limb with bandages. Such a long splint I now show you, and this particular one was handed to me by one of the surgeons in Stonewall Jackson's army, where he was frequently obliged to have recourse to it. Towards the close of the eighteenth century, however, Pott wrote a short treatise in which he showed that there had always been considerable shortening after fractures of the thigh, explained the reason why this was so, and contended that the muscular contraction giving rise to it could be overcome by keeping the limb in a flexed position and thus relaxing the muscles. This publication made an immense impression in the medical world, and, as a consequence of it, the double inclined plane came into general use in the treatment of this class of fractures, both in England and in America; though it was never adopted by the French and German surgeons. The theory was specious, but unsound. It has its advocates even up to the present day, however, and a few leading surgeons in this country, among whom I may mention the distinguished Nathan R. Smith, of Baltimore, still prefer the double inclined plane to any other method of treatment.

Almost the entire surgical world, however, has returned to the use of the straight splint; but very important modifications have been made in it. The first of these was introduced by Boyer, and since his time almost innumerable devices, some of which I show you here, have been suggested in connection with it. Most of the modifications involved some form of screw by which extension could be made, and also some appliance for making counter-extension. The way of getting hold of the foot in order to keep up extension was a very important matter, and always gave a great deal of trouble. A few of the various devices which have been suggested I now exhibit to you. They are all apparently good; but, however carefully the foot-band might be padded, they all invariably caused excoriation and ulceration when any considerable traction was maintained for any length of time.

As to the matter of counter-extension, that was almost exclusively made by pressure upon the perineum, where the tuber-

osity of the ischium was the *point d'appui*. The best of all these appliances was the flat perineal band, on account of the comfort with which it could be worn by the patient. But what has been the history of these? Every old surgeon can recall a number of cases, especially where the patients were delicate females, in which a deep ulceration resulted from the pressure made by the perineal band.

It will thus be seen that surgeons labored under two great difficulties, viz., in the way of making suitable extension and suitable counter-extension by means of the extending band and the perineal band. In actual experience it was found to be altogether unsafe to employ a traction-force of over ten pounds, and this was usually quite insufficient for the purpose required.

It is to the late Dr. Crosby, of Hanover, New Hampshire, that the honor must be given of having made the first great step in the improved treatment of fractures of the femur. About twenty years ago he conceived the happy device of applying strips of adhesive plaster to the sides of the leg for the purpose of making extension, and by this means we are now enabled to employ with impunity a weight of twenty-five pounds, if necessary. This was indeed a great triumph. For the next great step in the treatment we are indebted to a surgeon of Schenectady, to whom it occurred that the necessity of having a perineal band might be obviated by elevating the foot of the bed. When this was first suggested to me it was thought to be necessary to have the foot of the bed raised about two feet from the floor, and in the first case in which I made use of the plan the patient complained that he felt as if he was going to have apoplexy, from the tendency of the blood to flow to the head. I was not, therefore, very favorably impressed with the idea; but the method was taken up with enthusiasm by Dr. Moore, of Rochester, and, as it was before long demonstrated that it was only necessary to elevate the foot of the bed four inches, the measure was adopted by almost all surgeons, and the perineal band was soon abandoned altogether. It is now many years since I have seen a perineal band in use in this hospital. One caution I will mention in raising the foot of the bed from the floor. It is always necessary to have the pillow under the patient's head alone; for if it is under the shoulders also, instead of having the whole

body act in the way of making counter-extension, you will only have the portion from the pelvis down.

Thus, then, you see, we have at our command reliable means for both extension and counter-extension without causing inconvenience or injury to the patient. But in making extension we are not able to go beyond twenty-five pounds' weight, for the reason that the ligaments about the knee-joint become painful when a traction-force exceeding this is applied. You know that in standing, however erect, the knees are never kept perfectly rigid and straight, but are always flexed to a slight extent; and if a greater weight than twenty-five pounds is employed when the body is in a recumbent position, the strain upon the ligaments soon becomes unbearable. Twenty-five pounds is the maximum weight to be used, and is ample for all practical purposes. Oftentimes a considerably smaller weight is quite sufficient; and my rule is gradually to increase the amount of extension until the patient cannot bear any more with comfort.

To the Germans we are indebted for many important advances in both medicine and surgery; but in one instance the American surgeons followed the teachings of the German authorities and went a step backwards. This was by the adoption of the plaster-of-Paris bandage in the treatment of fractures of the femur. At first it was supposed to be necessary to make counter-extension by pressure upon the perineum, and, as a consequence of the plaster treatment with this in view, I have seen an enormous ulceration result, extending for several inches around the perineum, and as deep as my hand. When this idea was abandoned, the attempt was made to obtain counter-extension by means of the large muscles upon the back of the upper part of the thigh; but in a person of small muscular development this was utterly impossible to do, and in any case the plaster application soon became so loose as to be utterly valueless in this respect. In this hospital I saw more shortening and more crooked limbs after fracture of the femur, while the plaster treatment was employed, than I ever saw before or have ever seen since. What is more, I saw three deaths actually result from it, and these have been carefully recorded in the latest edition of my work on Fractures and Dislocations. I tell you, gentlemen, the introduction of

this treatment was not one step, but several steps, backward. I do not speak from mere hearsay, but from actual experience; for for three or four years I treated every alternate case occurring in my service with the plaster bandage, and I always observed the result accurately. Now, I am happy to say, the method has fallen into general disuse here, almost all of my colleagues in the hospital having abandoned it. If you attempt to employ it in country practice, I feel quite sure that you will give it up too, after having made trial of it about twice.

Now we are prepared to look at some cases in process of treatment; and in the first one which I show you, you will observe that no side-splint is employed. This is sometimes unnecessary, but in many instances it forms an essential feature of the treatment. Instead of one pulley and one weight, there are two of each,—the two cords extending from each side of the foot-piece. This modification was suggested by Dr. Monroe, of the House staff, with the idea of preventing external rotation of the limb; and it does accomplish this to a certain extent. In this case, a plaster-of-Paris bandage has been applied over the adhesive strips, in order to keep them more firmly in position.

In the second case before you, there is also no side-splint, as you will perceive, and rotation is guarded against not only by having two weights and pulleys, but also by a little apparatus contrived by Esmarch. This consists of a cushion on which the foot rests, and which is fastened to a wooden cross-piece for the purpose of holding the limb steady, and the cross-piece is movable upon a frame when the position of the foot is changed. We have, however, a simpler means, I think, of accomplishing the same result in a better manner, and this I will show you presently. In this case, silicate of sodium instead of plaster of Paris, as in the last, is applied over the adhesive strips upon the leg. The patient has now been under treatment for more than seven weeks, and yet I am still able to detect a little crepitus at the seat of fracture. As he is a young man and apparently in good health, the process of repair would seem to have been going on rather slowly; but I have no doubt that a good result will be obtained in the end. In my forty years and more of practice I have never had a single case of non-union

occur in my own hands, and I have certainly treated a pretty large number of these fractures; though I have seen some in consultation. I do not say this in any spirit of boasting; but such has been my good fortune.

I now pass to the third case, the treatment of which is a typical example of what is known as Buck's method. Dr. Buck has done a great deal for the treatment of these fractures, but the various improvements which have been adopted in its most approved form have been suggested by so many surgeons that I think it is hardly just that it should be called by his name, and I would suggest the "American plan" as a more appropriate title. You observe its prominent points: the long splint, with its lower extremity fitted into a light wooden frame-work to hold it steady, and its upper portion bound to the side of the chest by a wide roller-bandage; the foot-piece (to which the weight is attached by the cord passing over a pulley) sufficiently wide to prevent any pressure being made upon the external or internal malleolus; the adhesive strips extending up to the knee, and covered by a roller to keep them in position; the four short side-splints about the thigh, covering the seat of fracture; and, lastly, the foot of the bed elevated four inches above the floor, for the purpose of making counter-extension. The adhesive plaster should not pass above the knee, for if it reaches higher than that it will be likely to do more harm than good, by involving some of the muscles which are attached to the upper fragment of the femur. For the four independent side-splints, within the long one, we are now in the habit of using felt, because it is a light material and when once moulded to a part retains its shape permanently. They are kept in position by a bandage, and can be removed at pleasure for the purpose of examining the seat of fracture, or for any other reason that may necessitate it. They are extremely useful in preventing looseness of the limb. As a general rule, I regard the long splint as the most essential requisite for making a straight thigh, and it acts in two ways: *first*, by preventing eversion, and *second*, by keeping the whole body straight. In its simplicity and efficiency it is far superior to the plaster-of-Paris bandage. Theoretically, the latter, after being once applied, is supposed to remain

in situ until the case is discharged cured ; but practically it is found to get loose in a week, and in two weeks it becomes positively necessary to remove it and apply an entirely new dressing, which involves no inconsiderable amount of labor. This, of course, has to be repeated about every fortnight until the end of the treatment. Here is a little boy upon whom the plaster was applied only a few hours ago, and, though it was very carefully and thoroughly done, you will observe that I can already get my hand underneath the part of the bandage which passes around his body. In the course of a week the whole will be so loose as to be of no practical use whatever.

In all the cases which I have shown you there will probably be some shortening, varying from three-eighths to one-half of an inch ; for in fractures of the femur more or less shortening is the rule, and not the exception. Some writers would have us believe that naturally in about every third man one lower extremity is longer than the other ; but this is certainly not the case, for were it so this disparity would very frequently be corrected by the occurrence of a fracture. In reality, however, I find that in about nine out of every ten cases one limb is slightly shorter than the other after my treatment for fracture.

The next case which I shall show you is a young man who has had one of his thighs fractured twice. The first time he was treated by some other surgeon, and the last time by myself, quite recently, at St. Francis's Hospital. It is necessary that we should be very accurate in making measurements after fractures of the femur ; and my method is as follows. Placing my thumb-nail upon the ring of the measuring-tape, I do not put it directly upon the anterior superior spinous process of the ilium, but underneath the latter, upon the tensor vaginae femoris muscle, and then press it firmly up against the bone. The lower end of the tape is now passed to the external malleolus, and in the case before us I find that the limb which has sustained the two fractures measures thirty-four inches, while the uninjured one measures thirty-four and a half inches.

The patient tells me that a day or two ago, while making unusual muscular exertion, he heard something crack, and experienced a sensation of pain and weakness at the seat of the recent fracture.

This was no doubt due to the fact that the callus, being still new and tender, gave way to a certain extent ; and it will be necessary for him to remain perfectly quiet for a few days, in order that firm union may again occur in it.

In conclusion, I may remark that I was very much gratified to-day by the reception of a copy of my book translated into German. However unworthy an effort it may be, it is a matter of some pride to me to know that it is the only exhaustive treatise upon fractures and dislocations extant in any language, except the great work of Malgaigne ; but that appeared twenty-seven years ago, and has now, of course, become in many respects practically obsolete.

ORIGINAL COMMUNICATIONS.

FOUR CASES OF TRACHEOTOMY FOR PSEUDO-MEMBRANOUS LARYNGITIS.

BY CHARLES B. NANCREDE, M.D.,

One of the Surgeons to the Protestant Episcopal Hospital.

IN placing these four cases of tracheotomy upon record, I will only report the facts, and not make any extended comments upon them. I do not propose considering in the present paper the place that the operation should occupy in the therapeutics of this dread disease, or the indications for its performance, etc., merely stating that all of my patients presented marked recession of the base of the chest and epigastrium upon inspiration, and a like condition of the supra-sternal and clavicular notches, the sterno-cleido-mastoid muscles standing out in sharp relief. In like manner, the after-treatment will not be described in detail, since the notes of each case will, I trust, develop my plan sufficiently. In reporting the results of any therapeutic measure, too often only the successful ones are published, while the much larger number perhaps, the failures, are allowed to remain in "Cimmerian darkness." This mistaken plan almost inevitably results in disappointment to those who are induced to follow in the footsteps of the reporter, and equally often a measure full of advantage falls into undeserved disrepute. Were *all* the results, good, bad, or indifferent, published, the reader would make similar attempts with

his eyes open, and neither expecting too much nor too little would much more rarely be disappointed. I think that I am personally acquainted with nearly all, if not all, the successful cases operated upon in this city, and so are the majority of the profession. With regard to the unsuccessful ones, I can only say that while only some ten or a dozen gentlemen have been successful with a small minority of their operations, I know of some fifteen or twenty others who have had no recoveries whatever. Some, too, of these operators have had as many as three or four cases apiece; while I am convinced that many others have escaped my knowledge.

It will be perceived that my first three cases were eventually unsuccessful,—although affording great relief for a time,—but the fourth resulted in a most satisfactory recovery. For this fortunate event I am largely indebted to the thoroughness and efficiency with which the after-treatment was conducted by my resident, Dr. Goldsborough, kindly aided by Drs. Hazlehurst, Irwin, Smith, and Walsh, the other resident physicians at the Protestant Episcopal Hospital, and Mr. Foulkrod, medical student.

In the last and successful case there is one part of the treatment that I desire to emphasize by calling especial attention to it, and that is the employment of digitalis. Doubtless, most are aware that digitalis has been recommended and successfully used in pneumonia, etc., reducing the frequency of the heart, thus acting as an antiphlogistic agent, as well as strengthening that organ, and aiding in averting the danger of heart-clot which may occur in this disease. In like manner, by slowing the circulation, the temperature is decreased. Its use has also proved of great value in typhus and typhoid fevers, acting as a heart tonic and antipyretic agent. Now, unquestionably in diphtheria one of the dangers is a sudden giving-out of the heart, which, if the disease be complicated with pneumonia, greatly enhances the risk of heart-clot. For the above reasons, and from having previously witnessed in another grave operation case the beneficial effects of digitalis, I was induced to give it. Judging from its results in this croup case, it would seem likely to prove of great value in similar ones: still, I am seriously opposed to generalizing upon such small grounds, believing that this habit of hasty generalization has done more than any-

thing else to retard and discourage our progress in therapeutics.

I think that I have not judged amiss from the results obtained by the use of the same drug in a number of other traumatic cases where similar results obtained. I would add another fact which seems to me likely to render digitalis useful in diphtheria,—viz., its value as an antipyretic where there is increased bodily temperature. Children are influenced most unfavorably by high temperatures in disease, which seem to me especially dangerous in diphtheria where there is a tendency to weak heart, since this organic muscle is known to suffer from great heat, as in sunstroke.

Case I. Fatal Result.—I was sent for in haste on the evening of October 4, 1875, to see Allen M., æt. 4 years. He had been sleeping with an older sister who was convalescing from an attack of diphtheria, his eldest brother at this date suffering from the same disease. Having called to see another member of the family that morning (whose leg I had amputated a few days previously), I had noticed that the child Allen was croupy, but a careful examination of the fauces made by myself and Dr. Cleemann, who was kindly assisting me in dressing the amputation case, failed to reveal any membrane, or indeed much amiss with the throat. He was croupy indeed, but no more so than is commonly seen in many cases of inflammatory croup, viz., slight huskiness of the voice, some slight stridor of respiration, and a ringing croupy cough. I warned the parents to watch him closely, and to let me know should there be any marked change for the worse. About 5 P.M. he had a bad suffocative attack, after which he had a number of recurrences, with the whispering voice, noiseless cough, and swollen congested face so characteristic of pseudo-membranous laryngitis. I saw him about 9½ P.M., when his condition was steadily growing worse, marked recession of the supra-sternal and clavicular notches being present, with sinking in of the base of the chest and epigastrium upon every inspiration, the latter being short and labored. The lungs seemed healthy. The child lay back in the mother's arms apparently much exhausted. Medicinal measures having failed, Dr. H. Lenox Hodge was sent for in consultation, and upon his arrival, about 11 P.M., I performed tracheotomy beneath the isthmus of the thyroid gland, introducing a double silver canula. The wound was cauterized with a solution of argenti nitras, according to Trousseau's recommendation. The after-treatment consisted in keeping the room warm (about 90° Fahrenheit) and full of steam, with good food. Lime was kept slaking in the room.

The case progressed favorably until about 4 A.M. of the 7th inst., when increasing difficulty of respiration was noted, which had progressed to such a point that upon my morning visit, about 10 A.M., the whole chest seemed to wave and sink in upon every attempt at inspiration. The face was livid and intensely congested. I removed the tube and tried to excite coughing, hoping that the membrane might be but limited and acting merely as a plug, in which case it might be driven past the opening in the trachea by the violent expiratory efforts. This expedient proved of no avail, however, the child expiring in about fifteen minutes. I had no time for examination of the chest, but think that death was caused by a rapid extension of the membrane downwards, and consequent plugging of the bronchi. The relief and the prolongation of life were very evident up to some six hours before death, the child sleeping, breathing, and taking food as if nothing much were the matter with it. No post-mortem examination was made.

Case II. Fatal Result.—Peter S., æt. 2 years and 11 months, was first noticed to be ailing Saturday, February 19, 1876, and the next day was slightly croupy, but with no apparent interference with respiration. He continued in the same condition until Tuesday morning. About 9 A.M. of this day, when he got up, his mother first noticed the stridulous breathing. She then sent for Dr. G. A. Rex, who did not see him until about 5 P.M. Various emetics had been administered, but with no relief. I was then asked to see him in consultation. When I did so, his face was a little swollen and much congested; there was marked interference with the entrance of air into the chest, loud stridor, with depression of the supra-sternal and clavicular notches, and recession of the abdominal walls and base of the chest upon every inspiration. There were patches of old membrane upon the tonsils, the lymphatic glands of the neck were but slightly involved, and there was little or no constitutional depression. The lungs seemed to be free from disease. I advised an immediate operation, which I performed under ether at 6.30 P.M., being kindly assisted by Dr. G. A. Rex, who etherized, and Dr. E. L. Evans. The operation was completed without difficulty, a considerable portion of false membrane being coughed up when the tracheal incision was made and a small double vulcanite tracheal tube was inserted. Gave quinia and iron, beef-tea, compound tincture of cinchona as a stimulant, on account of the alcohol it contained, and camphorated tincture of opium, *pro re nata*. The steam atomizer with lime-water was freely used, the spray being directed into the tube, while a gauze veil moistened with the same fluid was placed loosely around the neck. I have to return thanks for the efficient manner in which my friends Drs. Cleemann, J. Henry C. Simes, and H. Reed watched the case for me, and for the

able co-operation of Dr. Rex, the attending physician. These gentlemen kept the tube clear by the introduction of a feather wet with a weak disinfectant solution, and by occasionally removing the inner tube. The parents also rendered most efficient aid in this task.

The case progressed most satisfactorily for the first two days, when the respirations suddenly ran up to 44 per minute upon my first visit, and then to sixty odd upon a subsequent one. The pulse kept pace with the respirations, reaching 144 per minute, and still higher towards the close of life. I believe this to have been due to an ordinary pneumonia, from which disease he had nearly died the year before; but I could not verify my conjecture, since the child would not submit to any physical examination whatsoever. Great swelling of the lymphatic glands and the whole neck was noted upon the night of the second day, threatening at one time to force out the tube; but this subsided almost entirely before death. He expectorated membrane freely through the tube, especially during the latter part of the second and the early part of the third day; none coming away for twelve hours before death. The wound became covered with false membrane, notwithstanding Trouseau's plan of cauterizing the wound with a solution of argenti nitras was followed at the time of operation. There was no reason to think that the membrane extended downwards, since Dr. Rex assured me that air entered the chest freely to the last, when he died on the morning of the fourth day in convulsions, due most probably to uræmia, although no urine could be obtained for examination. He lived not quite three days and a half from the time of operation. No post-mortem examination was made.

Case III. Fatal Result.—Was called to Lizzie K., aged 4 years and 1 month, December 26, 1876, who was suffering from a suspicious coryza, accompanying pharyngeal diphtheria. I say suspicious coryza, having attended to its fatal close a most malignant case of diphtheria in a younger sister ten days previously, where not only the pharynx but the nasal passages were attacked, the efficient cause of death being, however, laryngeal diphtheria, for which I did not consider it proper to operate. The patient was ordered to have the throat swabbed out with salicylic acid and glycerine four times daily, or oftener if it could be done, and to take quinine and iron in appropriate doses, with nutritious food and stimulants. At my next visit there were no croupy symptoms: the child was, however, no better. On the evening of the 27th I was sent for, and found the child markedly croupy, the symptoms having first been noticed late in the afternoon. I informed the parents of the almost hopeless nature of the case, but suggested a consultation, as they had lost the other child from the same disease without operation. Accordingly, Dr. H. L. Hodge met

me, and advised most strongly to tracheotomize should the child become much worse. Appropriate medicinal measures were adopted and carried out during the night, but the child steadily became worse, until at 9 A.M. of the 28th it was manifest that the operation was demanded if it were to be done at all. Accordingly, assisted by Drs. Cleemann and G. A. Rex, the child being carefully etherized by Dr. T. H. Bradford, I operated at a little after ten o'clock, introducing a double vulcanite tube. As usual, when the trachea was opened, considerable membrane was expelled, respiration was much relieved, and the child soon fell asleep, with the surface of a much more natural color. The wound was treated as in the previous cases. The room was kept heated and full of steam, while the lime spray of the atomizer was kept playing at intervals across the mouth of the tube. A cravat of gauze enclosing some salicylated cotton was loosely laid over the neck. The quinine, iron, etc., were given as often as the child could be induced to take them, but unfortunately it was rebellious and took but little, and much less food than I could have desired. The pulse was about 110, and respirations 20 per minute, up to the next day, when they both increased. About 5 P.M. a large piece of membrane was coughed up through the tube. During the morning of the 29th the child seemed worse: there were occasional bleedings from the nose, with fetid discharges. In the afternoon she became restless, more feverish, respiration was labored and difficult, and when I saw her at 7.30 P.M. it was manifest that but little air was entering the chest. I removed the tube and introduced a dilator, but the face, which was livid before, became rapidly dusker, and the child died, completely asphyxiated, at 7.45 P.M. This case was skilfully cared for by Drs. Bradford, G. A. Rex, H. Reed, Williamson, and C. Wirgman; and I take this opportunity for acknowledging my indebtedness to them for their kindness. No post-mortem was made.

Case IV. Cure.—When making my usual morning visit to the surgical wards of the Protestant Episcopal Hospital, I was told by the medical resident that Dr. Minich, one of our assistant physicians, then in charge of the medical wards, desired me to see a child who had been admitted that morning suffering from pseudo-membranous laryngitis, with a view to the propriety of operating. Dr. R. Meade Smith, the resident, told me that the mother said the child had only been ailing the previous day; but this is doubtful, since she was very indifferent and careless as to the child's welfare. Medical measures seemed to have relieved the child somewhat, owing chiefly, I believe, to the relief of the spasmodic element common to this as well as spasmodic croup, and to the evacuation of a large amount of tough mucus due to a general bronchitis, if not broncho-pneumonia, from which he was

then suffering. I advised that the usual medicinal measures should be used, gave a very unfavorable prognosis, but said that as the child's fauces presented no evidence of disease, and the lymphatic glands were not manifestly involved, I would advise the operation should the child continue unrelieved. I saw him at intervals whilst going my rounds, and found him steadily growing worse, becoming decidedly narcotized by the partial asphyxia. I received a telegram about 7.30 P.M. to come immediately and operate. I did so upon my arrival about 9 P.M., Thursday, July 26, 1877. The patient, John —, aged 4 years, was a puny, sickly child at the best. His face was intensely congested, great restlessness, and much greater difficulty upon inspiration was present. The most violent inspiratory efforts were being made, but little air entered the chest, and the lungs were full of râles, and not so resonant as they should have been. The signs of laryngeal obstruction were very marked, similar to those detailed in the other cases. The child's sensibility being dulled from the partial asphyxia and its lungs congested, I operated without ether. There was considerable difficulty during the latter part of the operation, owing to the wounding of the middle thyroid vein, or perhaps the thyroid isthmus itself. I had seen and, I supposed, protected these, but, owing perhaps to the struggles so inevitable when the trachea is fixed by the tenaculum, my knife must have wounded one or both. The unfortunate consequence was that by compulsion I opened the trachea in a pool of blood, respiration being too embarrassed to permit of my securing the vessel, knowing too that the hemorrhage would cease as soon as the tube was introduced. Surprisingly little blood entered the trachea, owing to my efficient assistants, and the little sufferer soon fell asleep after taking ʒss brandy and about Oss of milk, breathing most naturally, about 20 per minute.

The merest detail of the pulse, temperature, etc., will tell all the tale we need:

July 26th (day of operation).—Temperature, 101°. Evening.—Pulse, 140; respiration, 28.

27th. Morning.—Temperature, 100°; pulse, 120; respiration, 20. Evening.—Temperature, 100°; pulse, 132; respiration, 20.

28th. Morning.—Temperature, 99.5°; pulse, 116; respiration, 20. Evening.—Temperature, 100°; pulse, 136; respiration, 20.

29th. Morning.—Temperature, 100°; pulse, 112; respiration, 20. Evening.—Temperature, 100°; pulse, 132; respiration, 24.

30th. Morning.—Temperature, 100.5°; pulse, 108; respiration, 20. Evening.—Temperature, 102.5°; pulse, 120; respiration, 24.

31st. Morning.—Temperature, 102°; pulse, 116; respiration, 38 (pneumonia developed in the apex principally of left lung, involving eventually the whole upper lobe). Evening.—Temperature, 103°; pulse, 136; respiration, 35. Digitalis given.

August 1st. Morning.—Temperature, 101°; pulse, 136; respiration, 36. Evening.—Temperature, 101°; pulse, 140; respiration, 42.

2d. Morning.—Temperature, 101°; pulse, 132; respiration, 20. Evening.—Temperature, 102°; pulse, 150; respiration, 30. Fresh pneumonia, or rather extension to other portions of the left lung.

3d. Morning.—Temperature, 101°; pulse, 132; respiration, 36. Evening.—Temperature, 100°; pulse, 120; respiration, 28.

4th. Morning.—Temperature, 100°; pulse, 128; respiration, 28. Evening.—Temperature, 100°; pulse, 108; respiration, 42. Tracheal tube corked for half an hour at a time, thus accounting for increased number of respirations.

5th. Morning.—Temperature, 99.5°; pulse, 128; respiration, 28. Evening.—Temperature, 99.5°; pulse, 128; respiration, 30. Tube corked for a short time.

6th. Morning.—Temperature, 99.5°; pulse, 124; respiration, 39. Evening.—Temperature, 99.5°; pulse, 120; respiration, 36. Tube removed, but replaced several times daily for a few minutes at a time, and finally at 9 P.M. put in permanently for the night; gauze over orifice.

7th. Morning.—Temperature, 100.5°; pulse, 120; respiration, 42. Evening.—Temperature, 99.5°; pulse, 120; respiration, 40. Increased temperature and respiration rate apparently due to placing a piece of gauze heavily charged with carbolic acid over the tube, by mistake for plain gauze. Tube removed at 9 A.M., replaced at 9 P.M.

8th. Morning.—Temperature, 99°; pulse, 120; respiration, 35. Evening.—Temperature, 99.5°; pulse, 132; respiration, 40. Tube removed permanently; gauze compress lightly strapped over orifice; removed whenever child took food, as from third day there has been increasing regurgitation of food through the tube; abscess forming on forearm; poulticed.

9th. Morning.—Temperature, 99°; pulse, 120; respiration, 40. Evening.—Temperature, 100°; pulse, 134; respiration, 36. Abscess opened and poulticed; lungs steadily clearing up, regaining color and strength; cough much less.

10th. Morning.—Temperature, 99°; pulse, 132; respiration, 36. Evening.—Temperature, 99°; pulse, 132; respiration, 26.

11th. Morning.—Temperature, 99°; pulse, 108; respiration, 20. Evening.—Temperature, 98°; pulse, 116; respiration, 26.

12th. Morning.—Temperature, 98°; pulse, 116; respiration, 35. Evening.—Temperature, 98°; pulse, 128; respiration, 32. From this time the temperature remained normal, although the pulse and respiration remained high and variable.

The remainder of the treatment may be briefly stated as, at first, quinine and iron in large doses, the former part of the time equaling grs. vi by the mouth, and grs. viij per rectum. Sherry wine f3vi by mouth, and

brandy f3ss per rectum. Beef-tea, milk, corn-starch, farina, rice, etc., were given by the mouth, and from f3iv to f3v of beef-tea were given by the rectum. The digitalis, following the use of which such a marked improvement in the symptoms ensued, was given gt. i every two hours. When the regurgitation of food became marked, strychniæ sulph. gr. $\frac{1}{100}$ twice to thrice daily was given. Counter-irritation of the chest by turpentine stupes, followed by mush poultices, was tried, but the child would not keep the poultices on; so a heavy layer of cotton-wool covered by oiled silk was substituted. The atomizer with lime-water was almost constantly used, but the temperature of the room was not raised artificially. The wound closed in its deeper parts in about ten days after removing the tube, but remained superficially sore for some two weeks more. Various cerates were used, and the granulations were repressed or stimulated with argent. nit. The wound was for the first week merely covered by a compress, but after this time it was drawn together with straps and a compress.

2109 PINE STREET, October, 1877.

NOTES OF HOSPITAL PRACTICE.

JEFFERSON MEDICAL COLLEGE.

SERVICE OF DR. S. W. GROSS, LECTURER
ON CLINICAL SURGERY, MAY 12, 1877.

Reported by W. A. JOHNSTON, M.D.

GENTLEMEN,—If I detain you this morning beyond my customary hour and a half, I wish you to understand that I do it for the reason that I have an excellent opportunity of showing you seven cases of disease of the mammary gland, from which I hope to be able to demonstrate to you the more salient points in relation to their diagnosis, pathology, and treatment.

CHRONIC ABSCESS OF THE BREAST.

Case I.—Miss H., aged 27, has been suffering from an enlargement of the right breast, seated principally below and to the right of the nipple, for ten months. The nipple is very small, and appears to be retracted, but she states that this is a natural malformation. The growth of the swelling has been gradual, and it has been the seat of lancinating pains for the past four weeks, previous to which time it was free from suffering. There is no history of injury or of constitutional taint, and the integuments are normal and of the same temperature as that of the opposite side. The tumor is circumscribed and well defined, but there is an indistinct sense of fluctua-

tion, and it is evidently composed of fluid, surrounded by a considerable solid tissue. To assure myself of the true nature of the swelling, I introduce an exploring-needle, and as a drop of thin pus shows itself in the groove of the instrument, we know that we have to deal with a chronic abscess.

Case II.—Mrs. H., aged 27, the mother of two children, of whom the youngest is thirty-three months old, noticed, three months ago, a small lump at the upper and outer limit of the left breast, for which she is unable to account. It has gradually increased in size until it is now as large as the half section of an orange. It has never been the seat of pain or heat, and the nipple and integuments are normal. On lifting up the mass it feels like a solid tumor with cystic degeneration, as it is firm excepting at a limited spot, where fluctuation is decided. The exploring-needle, however, discloses thick, greenish pus.

Chronic mammary abscess, of which these cases are good examples, according to my observations, occurs most frequently in the third decade, or between the twentieth and thirtieth years, during suckling, although single and sterile married females are liable to it. The patient's attention is usually accidentally drawn to a firm, circumscribed, resisting "lump," or several lumps, which finally coalesce into one, seated at the periphery of or within the breast, which increases slowly, and without the ordinary signs of inflammation, until it has acquired a tolerably large size. In its earlier stages, its solid, circumscribed feel, its tardy progress, the absence of local symptoms of inflammation, and the impossibility of detecting fluctuation from the thickness of the cyst-wall, render it liable to be mistaken for a neoplasm, particularly the so-called adenoid tumor, which occurs at about the same period of life. Under these circumstances the entire gland has not unfrequently been extirpated. When softening sets in, and suppuration is still limited, indistinct fluctuation may be elicited; but as, in this stage, there is a good deal of surrounding induration, it may be confounded with the solid cystic growths, as cystic sarcoma or cystic fibroma. Later, when the formation of pus has advanced so far as to have caused the gland to attain rather large dimensions, the swelling is apt to be tender on manipulation, and the seat

of lancinating pains, while the subcutaneous veins are enlarged, the skin is discolored and glossy, and thinned at its point of attachment to the now pointing abscess, and œdema may be superadded. At this stage of the affection the incautious observer may be led to suppose that he is dealing with a medullary sarcoma or carcinoma. Hence you will see that the diagnosis is not always easy, and that you should not omit resorting to the exploring-needle to confirm it.

The treatment of chronic abscess of the breast is by evacuation with the bistoury; the insertion of a small tent, to prevent the closure of the wound, allow the free escape of the pus, and encourage the growth of granulations from the inner surface of the sac; and support by the gum ammoniac and mercurial plaster. This treatment was instituted in these cases, and twelve grains of quinine were ordered to be taken during the twenty-four hours.

PROLIFEROUS CYSTIC TUMOR OF THE BREAST.

Mrs. I., aged 45, barren, has a painless tumor of the left mamma, of one year's duration, seated superficially in the middle of the gland, the nipple corresponding to its centre. It is globular, elastic, of the volume of a small orange, fluctuates distinctly, and constantly discharges a thin, turbid, bloody fluid from the nipple, which is prominent and natural. The skin is not discolored, the gland is perfectly movable, the lymphatic glands are free from enlargement, and pressure causes a fine stream of the fluid to be ejected by a lacteal duct. Her general health is good, and she ceased to menstruate three years ago. The fluctuation and discharge of fluid are quite sufficient to stamp the tumor as cystic, which is a comparatively rare form of disease.

Cysts of the breast originate in several ways. Thus, they may be due to softening of a neoplasm, as a sarcoma; or they may be entirely of new formation; or they may arise from obstruction of a lacteal duct, with resulting dilatation of the corresponding acinus and duct, and retention of their secretion, which is either of a limpid serous or mucoid nature, tinted with blood, or of various hues. The last form of the affection, which includes the case under consideration, is the most common, and is known as retention cyst. It is met with in young girls and women after the completion of puberty, or during the

evolution or full maturity of the gland, and later in life after the cessation of the menses. In the first class of subjects, in which it is called evolution cyst, it forms a round, movable, firm, elastic, smooth, or lobulated tumor, which seldom exceeds the size of a walnut, and grows slowly and painlessly. If fluctuation be not evident, it will be impossible to distinguish it, without a resort to the exploring-needle, from adenoid fibroma or adenoid sarcoma, which also occur most frequently in the third decade. The cyst which occurs during the involution of the gland, and is known as involution cyst, also progresses slowly and is painless, but it is capable of acquiring enormous dimensions. Unlike the former, which is usually a simple barren cyst containing a limpid fluid, it is very liable to be prolific, or present on its inner surface other cysts or variously shaped solid growths, which may be of a fibrous or glandular nature, or composed of sarcomatous, myxomatous, or carcinomatous tissue. Hence it is that involution cysts, with bloody contents, should always excite suspicion.

Although no solid element could be detected, it was deemed best, particularly as the gland was of no use to the woman, to remove it. This was accordingly done, under ether, by two elliptical incisions. After the ligation of five vessels, the edges of the wound were approximated by interrupted sutures and narrow adhesive strips, and an oiled compress was secured by a roller passed around the chest, to bring the deep surfaces of the wound in approximation. After extirpation, the tumor, which was intimately connected with the gland, was found to consist of a cyst, filled with bloody, turbid fluid, and having attached to its inner surface a vascular, succulent, spheroidal solid growth of the size of a hazel-nut. With a view to throwing light upon the question of recurrence, this will be subjected to minute examination.

ADENOID FIBROMA OF THE BREAST.

A servant-girl, single, aged 28, noticed, two years ago, above and exterior to the left nipple, a movable tumor, about the size of a small marble, which has now attained the volume of a walnut. It is firm, elastic, spherical in its outline, rolls under the finger, although it seems to have a deep attachment, is of uninterrupted growth, and free from pain. The breast

itself, the nipple, and integuments are normal; and there is no uterine derangement.

This tumor evidently belongs to the class of neoplasms termed adenoid, from the fact of their containing glandular tissue. It is most common in single women between the twentieth and thirtieth years, or during the stage of passive maturity of the breast. It is rarely the seat of pain, and the patient's attention is usually first drawn to it by accident.

According to my investigations, these growths are not new formations of glandular elements, or adenomas in the true sense of the term, for I have never been able to convince myself, from a number of carefully conducted minute examinations, that there is true hyperplasia, or numerical increase of acini and ducts. The neoplasms that are loosely called adenomas are either fibromas or spindle-celled sarcomas, the gland-tissue remaining perfectly passive, while the interacinous and intertubular connective tissues play the active rôle in their genesis. So far from there being an increase of the glandular elements, these undergo obliteration. For these reasons, I myself prefer to speak of fibroma or sarcoma, or of adenoid fibroma or adenoid sarcoma, the prefix being retained to show that a certain amount of gland-tissue is retained in them. These adenoid neoplasms are innocent, and cannot be distinguished from pure adenomas, unless it be that the latter are not distinctly circumscribed and do not grow larger than an almond. From each other, however, they may be differentiated by noting their clinical history. Thus, I have found that if a firm, possibly elastic, movable, and circumscribed tumor reaches the size of a walnut in six or seven months from the date of its first discovery, when perhaps it was not larger than a pea, it may safely be assumed to be a sarcoma; whereas if it has been two years in acquiring the same dimensions, it may be pronounced a fibroma.

Although I have never verified a true adenoma under the microscope, I by no means deny its existence: indeed, I always bear in mind its entity when I am consulted as to the propriety of operative interference. When the growth is of tardy progress and of moderate size, assuming it to be a fibroma, an operation may be delayed; but if it is increasing rapidly it should be removed, because, being a sar-

coma, it is liable to become cystic, attain large dimensions, and finally ulcerate, thereby forming what is known as cystic sarcoma. If you are in doubt, operate at any rate. If you find you have removed a true adenoma, you have gotten rid of a source of possible worse trouble, as observation has shown that adenoma may become carcinomatous: in point of fact, the boundary-line between adenoma and true epithelial carcinoma is by no means distinct. Again, you may have diagnosed an adenoma when your patient is really suffering from scirrhus, as is exemplified in the next case that I shall bring before you. Hence it will be more wise to remove a hard small growth at the circumference of the mamma than to allow it to remain. As the subject of the present case is not ready, operative interference will be deferred until the fall.

RECURRENT SCIRRHUS OF THE BREAST.

On the 19th of June, 1875, Mrs. P., then aged 52 years, consulted me on account of a tumor seated at the upper and inner circumference of the right breast. It had existed for five months; was as large as a filbert; the seat of occasional "drawing" pain; of stony hardness; movable upon the subjacent tissues, but attached to the skin in front, which was dimpled but otherwise unchanged. Although it had been pronounced to be an adenoma, the age of the patient, the consistence of the tumor, its intimate connection with the skin, which was dimpled, or pitted, from intraction of its fibrous elements, led me to diagnose it as a scirrhus carcinoma, notwithstanding the fact that there was no enlargement of the supra-clavicular, pectoral, or axillary glands. After extirpation, not only were the macroscopic characters those of scirrhus, but the minute structure also confirmed my diagnosis. The drawing which I show you, made by my friend and former pupil Dr. W. B. Brewster from a partially pencilled-out section, is a beautiful illustration of the histological construction of this class of morbid growths. You will observe that the alveoli of the connective-tissue stroma are occupied by free epithelial cells, and that between the fibres of the stroma are intercalated numerous emigrant colorless blood-corpuscles.

Although the tumor was so small and was confined to a single outstanding lobule, I extirpated it in the most thorough manner, carrying my incisions at least an inch from

the margins of the growth, and dissecting away the pectoral fascia, which was not at all involved. I did this with the hope that there would be no return; but the usual history of recurrence repeats itself here. The tumor reappeared in the outer extremity of the cicatrice nineteen months and a half after its removal, and is now of three months' duration. It is again as large as a filbert, painless and hard; but there are still no lymphatic involvement or deep adhesions. I will remove it freely, and with it some of the fibres of the pectoral muscle, in case cell-proliferation has extended in that direction. I do not consider it at all necessary to extirpate the entire gland, as the tumor is at its uppermost limits. She will be instructed to return at once should she again discover the merest nodule. Although the result of the first operation is discouraging so far as the question of local recurrence is concerned, I am satisfied that it has been of wonderful service in preventing contamination of the lymphatic glands and systemic infection or metastatic deposits. I had hoped, from the small size of the tumor and the early date and the thoroughness of the operation, that a cure would have been effected; but I cannot say that I am greatly disappointed, for I have yet to see the first radical cure of carcinoma of the breast.

EXTENSIVE SCIRRHUS OF THE BREAST IN A YOUNG SUBJECT.

In this woman, who is 31 years of age, the left breast is more prominent than its fellow, standing out boldly like a buttress. She is the mother of seven children, the last of whom was born ten weeks ago. She nursed from both glands up to one month ago, when she was directed by her family physician to discontinue the use of the affected one. I have no doubt that the rapid local spread of the disease may be ascribed to the early age of the patient and to the increased blood-supply of the gland: so that it is essential to check functional activity by weaning the infant entirely. The nipple is sunk into a deep furrow; but when I draw it out I find that it is inflamed and resembles a papillary tumor deprived of its epithelium. In the skin overlying the diseased organ, hard elevated ridges from half a line to two lines in diameter, and presenting a beaded appearance, are seen radiating from the periphery towards the nipple. These are produced by the extension of cancer-cells

into the lymph-spaces of the derma, where they have proliferated. The skin is also beginning to be brawny, thick, and hard, forming the *cancer en cuirasse* of Velpeau.

When I raise the breast, you observe on its lower and inner margin, involving about one-fourth of the circumference of its base, a puckered cicatrice, which is densely hard. At the outer margin I discover a hard, inelastic, discoid infiltration of the lower border of the great pectoral muscle; and on carrying my fingers farther outwards I come in contact with enlarged glands on the side of the chest and in the axilla. On attempting to move the breast, I find that it is adherent to the subjacent tissues; for the disease has also extended into the inner border or origin of the great pectoral muscle, and invaded the skin of the furrow between the breasts, where it forms a puckered cicatrice. Sharp lancinating pains are felt in the mass; but the patient's general condition is fair. All these facts make up the diagnosis of simple, hard, or scirrhus carcinoma, which is the most common variety of tumor occurring in this situation after the fortieth year. The disease began fourteen months ago as a small nodule at the lower and inner margin of the breast, or at the present site of the puckered cicatrice.

Scirrhus is very unusual at so early an age, and I have never, except in one instance, seen it in so young a person. It is most common after the cessation of the menses, between the forty-fifth and the fiftieth year, and usually shows itself either at the upper or lower and outer part of the organ, and not on the inner side, as in this case.

An operation is out of the question here. Even if I could remove all of the diseased tissues, which is simply impossible, recurrence would rapidly ensue. The treatment is entirely palliative, the object being to make the patient as comfortable as possible during the remainder of her life. To protect the breast from friction and pressure, she will have to dispense with corsets and wear a rabbit's skin next the surface. For the relief of the constant lancinating pains, a small portion of an ointment composed of thirty grains of veratria and two grains of morphia to the ounce of benzoated lard will be rubbed into the parts night and morning, and be supplemented, should it become necessary, by the internal exhibition of anodynes.

ATROPHIC SCIRRHUS OF THE BREAST OF SIXTEEN YEARS' DURATION.

The last case that I shall bring before you is a very remarkable one, and I am fortunately able to give you its previous history from notes taken when I first saw the patient on the 28th of April, 1871. She was then 56 years old, the mother of seven children, the youngest of whom was 27 years of age; her general health was excellent; and she had ceased to menstruate at the age of forty. In her twentieth year she had an abscess of the right breast, following parturition, which left a lump that never disappeared. In 1861, in consequence of itching of the skin, she accidentally noticed a tumor in the right breast, and one in the corresponding axilla; and she stated that during the ensuing ten years she could discover no appreciable difference in the size of the respective growths. There was no history of hereditary taint.

In 1871 her condition is noted as follows. The right breast is shrunken to one-sixth of the volume of the opposite one, which is small and flabby. The nipple is red and buried in the mass, resembling the arrangement of a circumvallate papilla of the tongue. The breast is excessively hard and inelastic, and its periphery is nodulated in such a manner, from intraction of the lobules, that it has a scalloped appearance. The skin about the nipple is of a light-red color, and the seat of superficial ulcers, or excoriations, which are, for the most part, covered with crusts. It is also puckered, or thrown into elevated lines, which radiate from the nipple, in which region it is adherent to the gland for an area of one inch. The breast itself is attached to the subjacent structures only throughout its lower half. The glands in the centre of the axilla form a dense circumscribed mass, as large as a pullet's egg, which is closely adherent to the wall of the chest. The glands above each clavicle are slightly enlarged. The tumor is the seat of a burning, smarting, or itching pain, which is occasionally of a lancinating character; but it can be roughly handled without producing suffering. With the exception of slight dyspepsia, the woman's general health is unimpaired.

To-day we are enabled to see what changes have taken place during the past six years. The breast and axillary glands are still separate, and they are firmly at-

tached to the ribs and intercostal muscles. The skin is thin, finely injected, and ruddy, and everywhere adherent. There is a small point of superficial ulceration above, at the border of the great pectoral muscle, and another over the axillary growth. These are partially covered with crusts. On the inner side of the withered breast, parallel with the median furrow, the skin is the seat of four shot-like, secondary nodules. The nipple, instead of being depressed, forms a small elevation on a very dense nodule. The entire mass is of stony hardness. The supra-clavicular glands are no larger than before; but half a dozen small glands can be felt in the left axilla, where they were first noticed four months ago. The woman's general health remains excellent, her only complaint being intermittent sharp pains at the site of the excoriations.

Although the disease has not remained stationary, its progress has been so very tardy that we have the rare spectacle of a cancerous patient alive and comfortable sixteen years after the affection was first noticed. As its extension has been superficial, it has remained a strictly local affair; for it has never spread beyond the mammary gland and its immediate anatomical connections. It has continued to be what it was at its very inception, a withering, cicatricial, or atrophying scirrhus; that is to say, the cells contained in the alveoli of the supporting stroma instead of progressively proliferating have early broken down into fatty detritus, and the resulting contraction of the dense though elastic fibrous tissue of the stroma has obliterated, in part or entirely, the individual alveoli, which remain as cicatrices. At the periphery, or surface, as is common to all carcinomas, however, cell-infiltration has been going on to a moderate extent, so that, instead of the typical structure of cancer, the microscope shows in these cases dense connective-tissue bands, with occasional small clefts filled with cellular debris, with extension of small cells into the adjacent tissues. This peculiarity of structure and the progress of the disease have led some observers to doubt whether it should be included among the carcinomas; but the implication of the lymphatic system, the skin, connective tissue, and muscles, along with the fact of recurrence after removal, are sufficient to stamp it as cancer.

Beyond the application to the excoriations of stramonium ointment in which a little bromide of potassium is incorporated, nothing need be done for this patient.

TRANSLATIONS.

THE PHYSIOLOGICAL ACTION OF NITRATE OF PILOCARPINE.—In *L'Année Médicale*, August, 1877, p. 134, are given the observations of MM. Chapelle and Droulon on the effect of subcutaneous injections of nitrate of pilocarpine practised on six patients, all but one of whom were suffering from slight surgical affections. The dose of the salt was about one-third of a grain, and as it is very soluble there was no difficulty in using it hypodermically. One or two minutes after the injection the patient had a sensation of warmth in the loins, his face flushed and his eyes became injected; soon an abnormal secretion of saliva filled his mouth, compelling him to spit every eight or ten seconds. At the end of three minutes little drops of sweat were observed about the nose, and then general diaphoresis occurred sufficient to dampen the mattress of the bed. The axillary temperature did not rise, but the pulse was variable, ascending perhaps in ten minutes to 140, and falling fifteen minutes later to 75, the oscillation generally, however, being between 95 and 110. There was disturbance of vision and hearing in the patients, and in some instances a desire to urinate. Nausea and vomiting were frequent occurrences. Thirty-five minutes after the first evidence of absorption of the drug the countenance became paler, the skin and extremities cold, formication of the limbs was felt, and the pulse lost strength; while the patients tottered and would have fallen if not supported by taking hold of something. The feeblest ones were completely overcome, and became very drowsy, inclining their heads over the basins to allow the profuse flow of saliva to escape with the least possible exertion. The symptoms gradually decreased, and in an hour or two all was over. The average amount of saliva ejected by each patient was about $\frac{3}{4}$ xvj, though in one case it reached nearly twice that amount. The perspiration was also very abundant, being sufficient to wet the bedding and mattresses.

In two cases the ordinary symptoms

occurred after the administration of the pilocarpine, but a recurrence of the profuse salivation and diaphoresis took place many hours afterwards; in one of the patients this was deferred until the following day at the same hour. J. B. R.

TRAUMATIC TETANUS CURED BY SULPHATE OF STRYCHNIA.—Dr. Gaucher, of Algeria, who sees a great many cases of traumatic tetanus, which is common in that country, and who has never seen a cure except in the case to be mentioned, has reported (*Giornale di Medicina Militare*, Agosto, 1877, p. 774; from *Journal de Méd. et de Pharm. de l'Algérie*) an instance of a young man who was seized with tetanic convulsions subsequent to the receipt of wounds of the head and chin. Having seen no good results from the ordinary treatment, he prescribed sulphate of strychnia in doses of about one-sixteenth of a grain. Under this treatment the paroxysms were diminished in intensity, and were altogether checked after the lapse of about fifteen days. An exanthematous and furunculous condition of the skin occurred during the time that the morbid symptoms were disappearing. J. B. R.

THE SYSTOLIC CEREBRAL MURMUR IN CHILDREN.—Jurasz (*Centralblatt für Chirurgie*, No. 35, 552) has investigated this phenomenon in a series of clinical and anatomical experiments. Out of sixty-eight children he found the murmur in twenty-eight cases, but it was not always constant nor in the same place. Its relation to pathological processes, except to rachitis and anæmia, he has not yet decided. The murmur is intermittent, isochronous with the pulse and the pulsation of the brain, and is frequently heard over the anterior fontanelle. It corresponds especially with the carotid murmur, and originates in the carotid canal, perhaps also in the foramen spinosum, since the size of these foramina is subject to great variation in children and consequently there results a disproportion between the canal and the artery. Previous to the third month, or after the sixth year, the murmur has never been heard. According to the author, no diagnostic value attaches to this murmur.

J. B. R.

URTICARIA SYMPTOMATIC OF HYDATID CYSTS OF THE LIVER.—Dieulafoy (*Giornale di Medicina Militare*, No. 8, 1877, p. 753; from *Gaz. Méd. de Paris*) has reported to the Society of Medicine some

interesting facts concerning the connection of urticaria and hydatid cyst of the liver. The eruption often appears after the first puncture of the cyst, the average being seven times in ten, but it does not always occur in the same manner after succeeding punctures; and on the contrary it is manifested very frequently when the cyst opens into the abdomen spontaneously. The cause of this phenomenon is unknown, but is supposed to be a simple reflex action, and not a blood-alteration caused by absorption of a certain quantity of the fluid; because the quantity that could be absorbed after puncture would be very small, and because M. Dieulafoy has observed a case in which the eruption after the tapping was limited to the middle line of the body. The phenomenon appears to be connected with hydatid of the liver, for it has not been seen in hydatid disease of other organs nor in other diseases of this viscus. Dieulafoy has also pointed out as a diagnostic symptom of this disease the very great disgust for fatty foods which the patients exhibit. J. B. R.

VEGETABLE PARASITE OF THE TONGUE (LANGUE NOIR).—Lancereaux (*Cbl. f. Méd.*, 1877, p. 605; from *Union Méd.*, 1877, No. 33) observed the case of a man of 50, who together with his niece showed a black discoloration of the tongue similar to that first described by Raynaud as due to a parasite. The edges and tip of the tongue were intact and showed a rosy hue, while the dorsum was entirely covered by a black sharply-defined tegument extending over the edge. The latter was shaggy, as if composed of hairs partly arranged in regular order, partly in a confused tangle. A black mass could be scraped away with the spatula, which, after stirring in water, showed a great number of hairs of less or greater length up to one centimetre. These consisted of overgrown epithelium, the greatly hypertrophied covering of the papillæ filiformes. In them were found numerous collections of spores of 0.004–0.005 mm. diameter, with here and there undulating branched threads occasionally themselves containing spores. L. considers the black discoloration as due to epithelial hypertrophy as well as the fungus. Oscar Simon, who abstracts the case in the *Centralblatt*, refers to a similar case of vegetable parasite of the tongue (in which, however, there was no black discoloration) in the *Centralblatt* for 1876, No. 312. X.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 24, 1877.

EDITORIAL.

PAUL F. EVE.

ON November 3 this distinguished surgeon suddenly expired at the bedside of a patient, in Augusta, Georgia. A graduate of the medical department of the University of Pennsylvania, Dr. Eve had been very thoroughly and widely educated in Europe, having spent years abroad, and, it is said, crossed the ocean twenty-eight times. Probably no other American has held as many chairs of surgery as did Dr. Eve. He successfully fulfilled surgical professorships in the following medical schools: Medical College of Georgia, elected in 1832; Medical Department of the University of Louisville, 1850; Missouri Medical College, 1868; University of Nashville, 1870; Nashville Medical College, 1876. In 1851 he declined the chair of Surgery in the University of New York, and in 1857 he served as president of the American Medical Association. During the rebellion he served very actively, and was offered but declined the Surgeon-Generalship of Tennessee. It has been widely reported that Dr. Eve was a Pole. He was, however, born at Augusta, Georgia, June 27, 1806. The mistake no doubt has arisen from his having served in the Polish army in 1831 and received the Golden Cross of Poland for distinguished services. As a writer, Dr. Eve was quite active: for many years he was much engaged editorially in professional periodical literature, and besides wrote various surgical monographs. He is said to have been greatly beloved and respected by his friends and acquaintances, and to have been a devoted and consistent Christian.

THE article upon the abuse of medical charity in this city which we published in our last issue was so well put together and so vital that it is attracting much attention. There is one fallacy, however, underlying its calculation, which is very commonly overlooked in all such discussions,—namely, that a very large number of dispensary patients “go the rounds” and constantly appear as distinct individuals in half a dozen, more or less, reports. Making all allowance for this, however, there can be no doubt that the profession here, as elsewhere, is spending much of its time in destroying its own livelihood.

WE are glad to call the attention of our readers to the complete catalogue of *all* the graduates of the Medical Department of the University of Pennsylvania, just published. We should think that every alumnus whose memory travels back in leisure moments to the days of his budding manhood would want a copy as a chart in which to trace the old half-forgotten names of his classmates. The modest sum of one dollar, sent to Dr. Horace T. Evans, northeast corner of Seventeenth and Green Streets, Philadelphia, will secure the coveted volume, if sent soon, but a limited edition, we believe, having been published.

ACCORDING to the telegrams, Mr. Gale, whose walking feat we noticed in our last issue, has just accomplished the apparently impossible task of walking one thousand quarter miles in one thousand consecutive ten minutes.

TO the recent Philadelphia books which we mentioned in a late issue as having found favor in Europe may be added Dr. Garretson's “System of Oral Surgery,” which has been translated into German and Spanish.

MR. ANNANDALE has been elected to the chair of Clinical Surgery in Edinburgh University.

CORRESPONDENCE.

LONDON LETTER.

THE winter session of the medical schools has now fairly commenced, and the usual addresses have been delivered at the various schools, Bartholomew's and Guy's dispensing with the ceremony. The most remarkable address in every way was that of Prof. Lister at King's. A large and distinguished audience listened to him with much attention, and even the first-year student, who had never in his life so much as heard of a bacterium lactis, sat with a subdued expression and behaved with unwonted propriety. After the briefest possible allusion to the subject of his being there, Prof. Lister went at once to the question of Fermentation. He stated that in medicine the diseases termed zymotic derive their name from the hypothesis that their essential nature is fermentative. Puerperal fever, and many of the gravest matters connected with a wound, depend upon a putrefactive fermentation. He pointed out that so long as the sugar of the grape was protected from the minute fungus outside it by the skin, no fermentation took place; but as soon as the grapes were crushed in the wine-press, and the sugar and the ferment came in contact, decomposition of the sugar took place. He then applied this hypothesis of putrefactive fermentation to the blood. "We all know," he said, "that if blood is shed from the body into any vessel without special precaution, in a few days it putrefies. The bland nutrient liquid, soon after leaving its natural receptacle, becomes foul, acrid, and poisonous,—a change fully as striking as the change which sugar undergoes in the alcoholic fermentation. Here is a glass into which blood was received with special precaution. In the first place, the glass, covered, as you see, with a glass cap and a glass shade, with the view of preventing the access of dust, and standing upon a piece of plate-glass, had been heated to about the temperature of 300° Fahr., and cooled with an arrangement that insured the filtering of the air from its dust,—the air that entered during cooling,"—so that he was perfectly sure the glass contained no living organisms. Having been filled with blood from the jugular vein of an ox with the most careful precautions, it had stood six weeks. The blood-clot had undergone no contraction, there was no shrinking of the clot, no pressing out of the fibrine. Thus he proved that blood has no inherent tendency to putrefaction, and proved further that the oxygen of the air will not cause the blood to putrefy. Yet, if the end of a needle touched putrefied blood and then were dipped into this preserved blood, putrefaction would soon spread through the mass. Rod-like bacteria would soon be found to spread through the whole mass. He then stated that when the emulsin

and amygdalin of the bitter almond are in an aqueous solution and hydrocyanic acid is produced, the change is not due to real true fermentation. The emulsin might be termed a resolvent, the amygdalin being the resolved material.

He then referred to the changes which go on usually with milk, and to the hypothesis that the ferment of milk is the caseine in it. Yet this, he said, was not so. He then showed a flask of boiled milk prepared six weeks before. It had not coagulated, there was no butyric fermentation, no oidium lactis, no putrefaction. And yet there had been abundantly free access of air to the milk all the time, but with precautions which had prevented the access of any germs of what he called the bacterium lactis. For it would appear that, lowly as bacteria are, they will not thrive anywhere, but have a choice or preference, and the bacterium lactis refuses to grow in Pasteur's fluid specially prepared for bacteria and torulæ. When the bacterium lactis cannot get access to milk, that milk remains perfectly fluid and perfectly sweet, with a normal neutral reaction to litmus paper of both kinds, and under the microscope shows no trace of organisms of any sort. He then went elaborately into the experiments performed by him, none of which can, however, be quoted here. On the whole, it was a very novel introductory address.

The address at University College was delivered by Dr. John Williams, the Assistant Obstetric Physician. He also left the beaten track, and related the history of our knowledge of the uterus and the ovaries, and of their function. He showed how little had been our knowledge until comparatively recent times, and specially referred to the work of Dr. John Power, "Essays on the Female Economy," published in 1821. Here was first enunciated the law of the spontaneous discharge of ova. "In every female," said Dr. Power, "arrived at the peculiar age of puberty, and in whom the sexual organization is perfect, the generative process proceeds in a regular and uniform series of progressive actions, to produce an ovum containing whatever principle the female may contribute to the life and substance of the new creature, with nutritive matter to support its vitality and growth until it is enabled to derive sustentation and growth from sources external to the ovum, and also to prepare it for its removal to any establishment in its appointed nidus. The production of the female part of the embryo and the preparation for its support and subsequent evolution are entirely independent of all influence from the male. At and subsequent to the time of puberty the enlarged ovaria are found to contain ova in different states of perfection; and in women who had never been impregnated, corpora lutea and cavities which had been supposed previously to have contained ova have been detected, whence it may be inferred that

in them not only the formation but the extrusion of ova is accomplished without the influence of the male." Such are Dr. Williams's quotations from Dr. Power's writings; and he goes on to say the last twenty years have, by numerous observations, given ample proof of the accuracy of Dr. Power's views as far as regards the spontaneous discharge of ova. The view which has been held that the menstrual molimen is due to and excited by the dehiscence of the ovules in the ovary, is now considerably shaken. An older view has come up again, and this view is now formulated as follows. The menstrual hemorrhage is due to a rhythmic wave of supplemental nutrition, which commences at the end of each catamenial flow and gathers to a climax against the next flux, and such is the menstrual cycle. The ovules do not necessarily dehisce at the time of the flux, but the ovary shares in the general vascular excitement which gathers to a climax immediately before the uterine hemorrhage sets in. Dr. Williams is well and favorably known for his researches as to the deciduous membrane of the uterus and the changes that it undergoes during each menstrual cycle. He says, "During the last few years the process has been more fully studied, and the opinion that the uterus is active only at the monthly epochs is not borne out. On the contrary, it has been found that a series of progressive actions takes place in it periodically, and that a deciduous lining is developed in the body of it, beginning at the close of a monthly epoch, perfected during the interval, and removed during the bleeding period." Applying this physiological knowledge to practice, he said there is "a view based upon the physiological doctrine of the dependence of the uterine on the ovarian functions. It is that uterine disorder is secondary to and dependent upon ovarian disease. It by no means follows that a diseased ovary excites uterine disease because in health the functions of the uterus are dependent upon the performance of those of the ovary; but the doctrine itself upon which the view is based has not only been called in question, but very strong evidence has been brought forward to show its fallacious character, and that, whatever the relation between the ovarian and uterine actions, it is not a dependence of one upon another." This is all very well; but there are good grounds for still believing that the ovary and uterus are associated in disease as they are linked functionally in health; just as we know that the liver and kidneys are connected alike in health as in disorder.

The other addresses were of the usual character,—good advice and practical suggestions, blended with such skill as the lecturer might possess. At St. Mary's Hospital the address was given by Mr. Herbert Page, who pointed out that the training of a medical man should not only make him familiar with professional

knowledge but develop him into a cultured gentleman exerting a good social influence. He said, "I have said we must be teachers as well as healers. When, amid the vast changes and revolutions taking place around us, peril has seemed to beset the establishment of the English Church, we have been told of the wondrous influence for good which lies in the presence of an educated gentleman in every parish. No man can be insensible to the zeal of the clergy in their exalted work; but while there are hundreds of homes and families in which they are never seen, there are very few, while misery and disease have mastery, from which the doctor can long be absent. How immeasurably great might be the influence of so wide-spread a body as our own, if to the full and in something more than in name we were worthy to be called an educated profession! The primary truths and laws of physiology which govern health, and the infringement of which brings on disease; an attention to simple sanitary rules, the neglect of which may be dangerous not only to individual households, but also to whole communities; a proper training of the young; a breaking down of the ignorant prejudices which have long combined to make men regard mental disorder as a disgrace to be concealed, rather than as a serious and lamentable disease calling for treatment in its earliest stages,—these are but a few of the matters concerning which the doctor ought, in the routine of his daily work, to make a deep impress on the people at large." Mr. Page is quite right here, and the people are beginning to listen to the doctor as a preacher who has some good news to bring as to our condition here upon earth. It is quite time in very deed that the doctor, as the representative of the knowledge of the natural man, should have his audience and be listened to with attention.

Beyond the strictly localized excitement caused by the opening of the medical schools, there is little of special interest going on. The Medical Society opened its present session by an address from the president, followed by an abstract of the essay on Pyæmia to which the Fothergillian Medal of the Society was awarded last spring. The gentleman to whom the honor fell is Dr. Peter M. Braidwood, who is well known for his researches as to the changes produced by zymotic disease in the skin, as to vaccination, and as to pyæmia. Some years ago he secured the Astley Cooper Prize for his researches on the last subject. The new material of his prize essay consisted of a series of experiments performed upon animals, and observations founded thereupon as to the artificial production of pyæmia. The fluids used were the lochial discharge from parturient women, and Burdon Sanderson's septic solution of muscle. Careful microscopic preparations illustrated the changes so set up in tissues, especially the viscera,

from the first plug in a blood-vessel, to the ragged cavity left by the breaking down of tissue. The precise forms which the pyæmic process took on were affected considerably by the sort of septic agent employed; and the solution of muscle produced more certainly deadly changes than those set up by the lochia. A great deal yet remains to be done before the obscure subject of pyæmia is cleared up. It is found in midwifery practice that pyæmia is not rarely due to the adhesion of some of the fetal membranes to the uterus too tightly to admit of the offending matter being washed away by any injection, and that the introduction of "the carbolized hand" for its removal is necessary, and that after the piece of membrane has been thus removed, amelioration of the symptoms often follows. Indeed, in some cases it would seem that by such procedure the patient is snatched from an almost hopeless condition.

The subject of all others which has excited the professional mind lately has been the trial and condemnation of four persons, two males and two females, for the wilful murder of the wife of one of the men by deliberate starvation. The features of the case were of remarkable repulsiveness, and will be doubtless more or less familiar to your readers. The decision, which was "guilty" against all four prisoners, turned upon the medical evidence given; and certainly the profession has figured conspicuously in the case, but whether in a fashion which redounds to its credit or not may be gravely doubted. The doctor who is called upon to attend the deceased goes out to a concert and supper-party, and, when he comes home and finds that urgent messages have been sent to him, goes off to bed without attending to the call, alleging under cross-examination in the witness-box that he supposed they would have gone for some other doctor; and yet they had brought the woman up from the country specially to be under him. Then a certificate of death is written, but, on the authorities questioning it, it is withdrawn. The certificate stated that the woman died of "cerebral disease." An inquest is held, and the post-mortem examination conducted so inefficiently that it is not known for certain whether the woman died of starvation, of tubercular meningitis, or, as a few eccentric persons stoutly maintain, of general paralysis. On account of the moral features of the case, there was a tremendous outburst of popular wrath against the prisoners, and some difficulty was experienced in getting some medical expert evidence for the defence which was set up,—viz., that death was due to tubercular meningitis. However, some *bonâ fide* evidence was forthcoming at the trial, and then a sad spectacle followed. The profession was split up into parties, some going for the starvation hypothesis, others holding the view

that the filthy condition of the deceased woman was entirely due to the effects of tubercular meningitis. The real trial came on after the verdict was pronounced. The verdict had turned on the medical evidence tendered at the inquest and the trial, therefore the profession must make itself heard. One medical journal rushed at once to the front against the verdict. Another as stoutly upheld the verdict. The world suddenly awakened to a lively interest in the subject of tubercular meningitis; public meetings were held, where a number of the medical men present made up for the small scientific value of their opinions by the decisiveness of their statements. Some really good men were against the verdict and gave weight to the objections raised: the tumult gathered force; a memorial signed exclusively by hospital physicians and surgeons was presented to the Home Secretary by Sir William Jenner, whose single-heartedness of purpose no one will for one moment call in question, and at last the prisoners were relieved. The striking matter of the whole question is this: the various opinions held are not founded upon the examination of the encephalic tissues of the deceased, but are based upon interpretations as to what could be the real state of affairs from what was said by the medical men present at the post-mortem examination. A more melancholy spectacle the profession has rarely presented for the derision of its enemies and the scorn of the scoffer. The predominant medical opinion is that there was undoubtedly great and criminal carelessness and neglect, but that it is doubtful if ever the prisoners distinctly formulated the idea of killing the woman, or only neglected her from indifference. If only the latter, the death-penalty was too severe a punishment for the offence. Certainly there were obvious and potent enough reasons for getting the poor woman out of the way by some means or other; but, it was alleged, if all the persons who had an interest in getting rid of other people were liable to be tried for deliberate murder because they did not do all in their power to prevent their dying, trials for murder would be going on incessantly throughout the length and breadth of the land. Whatever may be the decision ultimately arrived at, it is certain that it will be long before the last word is spoken about this *cause célèbre*.

The other subject is the destination of Cleopatra's Needle, which is being brought over to England at the sole expense of a well-known member of our profession, viz., Erasmus Wilson, F.R.S., Professor of Dermatology in the Royal College of Surgeons. The learned professor took an interest in the fallen obelisk on which Jacob and Joseph must have gazed, and determined to give it a suitable habitation in another country and amidst a totally distinct race of men. The interest in the subject has been heightened by the fact

that the obelisk ship was cast adrift in a terrible gale off Cape Finisterre. The investment of so large a sum from professional earnings in a national subject of such a character is novel,—the endowment of hospitals being quite common. Professor Wilson has a world-wide reputation as an authority on diseases of the skin. It is not so generally known that he is the author of some anatomical works of great value. His "Dissector's Manual" was in great vogue some years ago. But his work on "Diseases of the Skin," and the accompanying plates, are still in great repute. A popular work on the diseases of the skin has gone through numerous editions and made his name a household word in England. Professor Wilson has for many years done a very large and lucrative practice. A few years ago he endowed a chair in Dermatology in the Royal College of Surgeons, himself becoming the first professor, at a cost of five thousand pounds. Now he has spent more than double that sum in the attempt to bring the obelisk of Thothmes III. from its native land. After many vicissitudes by land, it has experienced grave danger by water: however, it is at present safe at Ferrol, where it may undergo a long detention,—perhaps long enough to let the authorities decide where the great dermatologist's treasure shall finally be placed.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 27, 1877.
The President, Dr. H. LENOX HODGE, in the chair.

Tumor involving submaxillary gland, removed by operation. Presented by Dr. NANCREDE; notes by Dr. FENTON.

J. McB., æt. 47 years. Occupation, dyer. General condition, very good. Admitted to the Protestant Episcopal Hospital September 17, complaining of a dense hard growth (three inches by two and a half inches) situated in left submaxillary space and adherent to the bone. First noticed three months since as a small "kernel" in the neck. No pain. Two years since, an epitheliomatous growth (one inch square) of two years' duration was removed from the centre of the lower lip. This tumor caused pain by its presence. One year since, another of these tumors, about half the size of a walnut, was removed from the lower lip a little to the right of the left commissure. He states that his maternal uncle had such a growth on the lower lip. It was extirpated and never returned. There is no history of syphilis. The specimen was removed September 18, 1877, along with two inches of jawbone. The patient has since done exceptionally well.

Report of the Committee on Morbid Growths.—"A microscopical examination of the tumor presented by Dr. Nancrede, and referred to Committee on Morbid Growths, is seen to consist of fibrillar connective tissue, grouped into bundles of various sizes. The cells are comparatively few in number, spindle-shaped and nucleated. The growth may be classed among the connective-tissue fibromata. An examination of the gland removed with the tumor shows an infiltration of a similar character."

"October 25, 1877."

Fibrous tumors of the uterus—calcareous tumor of the uterus—polypi of the uterus—encysted dropsy of the peritoneum. By Dr. H. LENOX HODGE.

This specimen is unusually interesting on account of the varieties of uterine tumors which it presents, and because of the great rarity of cases of encysted dropsy of the peritoneum.

It was removed from a woman about 50 years of age. She had never married. Her menses had ceased about four years ago.

The tumor was first discovered by her family physician some nine years ago, in the upper part of the right inguinal region. There had been a slow increase until within the last four or five months, when the increase became rapid. Early in July last, ascites was first detected: the fluid increased so rapidly that on the 31st of July she was tapped, and eleven pints of a thin straw-colored fluid were removed. The fluid contained a large quantity of albumen. The fluid accumulated rapidly, and again on the 29th of August she was tapped, and sixteen pints of fluid, similar to the other, were removed. The fluid formed again, and she died from exhaustion September 22.

A *post-mortem* examination was made forty hours after death. About eighteen pints of straw-colored fluid were found in the cavity of the peritoneum. The peritoneum was everywhere very much thickened and studded with little prominences, apparently the result of inflammatory action. Strong bands extended from the liver downward and to the right as far as the ilium, and completely separated this portion of the peritoneal cavity from the rest. Even when the fluid was removed from the space below these bands, it remained without leakage in the space above them, and constituted a complete encysted dropsy of the peritoneum.

These portions of the liver, spleen, large and small intestines, and uterus have been brought to exhibit the condition of the peritoneum above described.

The uterus with its tumors so completely filled the cavity of the pelvis, and was so universally adherent, that it could only be removed by stripping the peritoneum from the abdominal walls and pelvis, and then taking away all the pelvic viscera in mass, and the parietal peritoneum with them.

The uterus was exceedingly enlarged, and

everywhere in its walls were fibrous tumors, varying in size from that of a marble to that of an orange. Some of them were sub-peritoneal, some in the midst of the walls, and some of them sub-mucous. Many of these tumors had undergone fatty degeneration. One large one had been reduced almost to fluid contents, and in the interior of the cyst thus formed there was a calcareous tumor attached to the wall, about the size of a walnut.

The cavity of the uterus was much enlarged, and contained within it two large polypi. Each of these was about nine inches in circumference and three inches long, and attached to the uterine wall by a narrow pedicle. The lower of these polypi was narrow at its lower extremity, and reached to the internal os uteri. It completely prevented the passage of a probe, even when the attempt was made after the uterus had been removed from the body and placed upon a table.

The following memoranda are the results of a microscopical examination made by my friend Mr. B. Mosquera :

Portion from walls of uterus.

1. Spindle-shaped connective-tissue cells, with a granular protoplasm.
2. Small round granular cells.
3. Bands of wavy fibrillar connective tissue, intermingled with connective-tissue corpuscles.

Contents of cyst formed by degenerated fibrous tumor.

1. Granular matter.
2. Small round granular cells.
3. Oil drops.
4. Débris of spindle-shaped cells.
5. Fatty infiltrations and fatty degenerations of connective tissue.

Surface of polypus.

1. Numerous round granular cells arranged in groups.
2. Large number of oil cells.
3. Fatty degeneration of villi.

Report of the Committee on Morbid Growths.

—"A microscopical examination of the uterine new formations presented by Dr. Hodge shows them to consist of firm, dense fibrillar connective tissue, arranged in bundles running in every direction. The blood-vessels have their walls greatly thickened by an increase of fibrous tissue, and they are few in number. This structure demonstrates the growths to belong to the fibromata.

"From a macroscopical examination, some of the growths are seen to have undergone a calcareous infiltration, others a cystic degeneration. The nodules developed in the peritoneum are the result of an inflammatory process.

"October 25, 1877."

Large tumor of the left superior maxilla, involving nasal and orbital cavities and frontal sinuses, removed by operation. Presented by Dr. J. EWING MEARS.

Dr. MEARS presented the specimen of a

large tumor of the left superior maxilla, removed from a patient in St. Mary's Hospital.

Dr. CLUNAS, resident physician, obtained the following history :

"Jas. R. D., æt. 46 years, bricklayer by occupation, of moderately temperate habits, healthy and robust-looking. Family history in general was good. He had heard that his great-grandmother had what was called a cancerous affection of the face.

"In or about the year 1864 his attention was for the first time directed to a growth in the left nostril, about the size of a pea, and apparently pedunculated.

"Six or eight months afterwards, the growth not having appreciably increased in size, an attempt at its removal was made, but abandoned on account of hemorrhage.

"Patient was able to continue at work until two and a half or three years ago, the tumor meantime increasing in size, gradually pushing its way outward and upward, forcing the eyeball from its cavity over towards the zygoma.

"During this time the patient had employed large quantities of proprietary medicines, also poulticing the growth.

"The tumor itself had been painless, although at times he had experienced neuralgic pains attributable to pressure, and also complained of pain from conjunctivitis. No ulcerative tendency had been exhibited. Occasionally slight hemorrhage had taken place from the left nostril. Formication was present.

"Within six months the entire alveolar process of the left jaw had been involved, the teeth becoming displaced. Eighteen months previous to his application for relief at the Hospital, the second and third molar teeth had been extracted, being very much decayed."

The area of the growth was from half an inch to the right side of the median line of the face to a point one and a half inches in front of the lobule of the left ear, measuring in this direction seven and a half inches. From above downwards, extending from one inch above the line of the infra-orbital border to within one inch of the lower border of the lower jaw, it measured six inches.

The external surface of the tumor was reddish, the integument being filled with small venous radicles. It was also lobulated (especially towards the inner portion), soft and elastic, this elasticity being more marked at some points than at others. At the extreme upper border externally a thin plate of bone could be felt.

After consultation with Dr. S. H. Griffith, attending physician to the Hospital, who kindly referred the patient to me, I determined to remove the tumor. For this purpose the incision suggested by the late Sir William Fergusson for removal of the upper jaw was employed, and the growth fully exposed. So entirely was the osseous tissue destroyed by

the tumor that it was only required to saw through the hard palate, the mass being then readily turned out of its place. It was very soft and friable, portions of it being detached by the slight effort made to dislodge it. It was found to have penetrated the orbital cavity, completely displacing the eyeball, entered the frontal sinuses and expanded these cavities to a marked extent. Absorption of the vomer and the left lateral mass of the ethmoid bone had taken place, so that the growth came in contact with the floor of the cranium. On examination this surface was found soft and easily broken down. The hemorrhage was very slight, but one vessel requiring ligation. The patient recovered well from the shock. The external wound was closed almost entirely by adhesion, and the internal surfaces were healing rapidly, when meningitis supervened on the twelfth day and caused death. To Drs. Griffith and Clunas I am greatly indebted for the faithful manner in which they conducted the after-treatment in this case.

Report of the Committee on Morbid Growths.

—"The specimen presented by Dr. Mears, removed from the superior maxillary region, by microscopic examination is seen to consist of epithelial cells, grouped in alveolar spaces; which spaces are formed by thin bands of fibrillar connective tissue. The cellular element is greatly in excess of the fibrous; from which, and the grouping of the cells in alveoli, the growth may be considered a carcinoma, variety encephaloid.

"October 25, 1877."

Specimen of large ulcer of the neck, involving the submaxillary gland, removed by operation.

Dr. J. EWING MEARS presented a growth, in a state of ulceration, which he had removed from the neck of a patient in St. Mary's Hospital.

The patient, 30 years of age, a laborer in the coal-mines, states that three years since his lower lip was severely frost-bitten, for the relief of which caustic agents were applied. Following this condition of the lip, a small ulcer appeared at the left angle of the mouth on the lower lip. About six months after the lip was frost-bitten he was struck by the handle of a shovel on the left side of the neck. A small swelling appeared two days after the receipt of the injury, which grew to the size of a pigeon's egg, when it broke and discharged a thin, bloody fluid.

The ulcer on the lip increased in size, and was removed in April of this year. An attempt was made by the surgeon to remove the growth in the neck at the same time, but the operation was not completed. Caustics were applied to remove the portion not excised by the knife. The wound in the lip healed promptly, and thus far there is no sign of a return of the growth. The wound in the neck did not entirely heal, a small ulcer remaining. During the summer this began to

increase in size, and the patient, becoming alarmed, returned to the city and came to St. Mary's Hospital for relief.

On examination the growth was found to be as large as a hen's egg, penetrating deeply into the structures of the neck and occupying to a greater or less extent the superior carotid and submaxillary triangles of the left side of the neck. The carotid artery in its superior portion was covered by the tumor, but did not impart a pulsatile character to it. In the act of deglutition the growth moved with the larynx, in this manner indicating its attachment to it. The ulcerated surface was about the size of a half-dollar, and discharged laudable pus. Three weeks after admission the growth was removed, the dissection required to accomplish this being very extensive and exposing the entire anterior triangle of the neck. It was necessary in this dissection to remove the sheath of the carotid artery and internal jugular vein, with the descendens noni nerve, the anterior portion of the omo-hyoid muscle, the submaxillary gland, and finally to detach it from the larynx. The facial and lingual arteries, with some smaller branches, required ligation. The hemorrhage was not great, and was easily controlled.

The large wound left was very much reduced by sutures, and the cavity was packed with lint saturated with carbolized oil. At this time the wound is rapidly filling up with healthy granulations.

Report of the Committee on Morbid Growths.

—"A microscopic examination of the specimen presented by Dr. Mears shows at and around the ulcerous part an inflammatory infiltration into the connective tissue. A section taken from the deeper portion is seen to consist in part of lymphoid cells, characteristic of a sarcoma.

"An examination of the submaxillary gland shows it to be the seat of an inflammatory infiltration.

"October 25, 1877."

GLEANINGS FROM EXCHANGES.

SURGICAL ANATOMY OF THE OBTURATOR ARTERY (*The Medical Record*, October 1, 1877).—Dr. John A. Wyeth and Mr. William L. Wardwell make the following deductions from an analysis of twenty-seven consecutive dissections of the arteries in the male and twenty-six in the female pelvis:

1st. That anatomists giving the origin of the *obturator artery* from the *posterior trunk* of the *internal iliac* are *positively wrong*, the vessel not originating from this point in more than ten per cent.

2d. That in females it will be derived from the *deep epigastric* in *one of two or two and a half cases*.

3d. That in males it will be from the *deep epigastric* in *one of four or six cases*.

4th. That the *obturator vein* is found to empty into the *external iliac* or *epigastric vein* in a much greater proportion of cases than the artery is found to originate from the *epigastric* or *external iliac*.

5th. That the advice to "feel for the pulsation of this artery before cutting Gimbernat's ligament" (as is frequently given) seems unnecessary, since the insertion of the finger through the constricted canal, completely filled by the intestine, *that has for this reason become strangulated*, is impossible until *after the section is made*.

6th. That, although the conditions in which the *obturator artery* is found to the inner side of a femoral hernia rarely exist, the operation should be made with every regard to this abnormal arrangement.

CAUSE OF DIFFICULT MICTURITION IN OLD MEN (*The Canadian Journal of Medical Science*, October, 1877).—According to Dr. Busch, frequent or difficult micturition in old men may depend not only upon hypertrophy of the prostate, as is generally believed, but also upon hydrostatic causes, which he claims to have demonstrated by a number of preparations. In youth, the sphincter vesicæ is quite close to the point at which the opening force is most exerted. But little of the propulsive power is therefore lost, and the stream can be projected to a considerable distance. At the period of puberty the sphincter is farther backwards, and the urethral walls must therefore be much more distended. Some propulsive force is thus lost, and the stream is less forcible. Should an hypertrophy of the prostate be now developed, the internal orifice would be found upon an elevation, which dips downward in all directions, but particularly backwards, where more or less deep depressions are liable to be found. If the bladder now contract, the force is exerted not only around the internal orifice, but also upon the lateral depressions: this would naturally tend to close the urethra still more. The ability of the patient to pass his urine without the assistance of the catheter will now depend entirely upon the preponderance of the force exerted from above, over that from the lateral parts of the bladder. It is clear, then, that this difficulty, although usually associated with hypertrophy of the prostate, may occur without any such enlargement, and may exist as a simple depression. The proper treatment to be pursued seems evident. Frequent micturition may prevent the formation of these hollows; the catheter should therefore be diligently employed from the time the affection first manifests itself.

TWO PECULIAR VARIETIES OF HYDROCELE OF THE CORD (*The Lancet*, October 13, 1877).—At a recent meeting of the Royal Medical and Chirurgical Society, Mr. Furneaux Jordan called attention to the different varieties of hydroceles in the scrotum, and their various combinations, and referred to the origin of

hydroceles of the cord, to which he limited his remarks. He considered them due to an imperfect obliteration of the peritoneal prolongation which took place along the cord from the internal inguinal ring to a point a little above the testis. This obliteration begins at two points, the ring and near the testis, and, if incomplete, fluid may collect in the unobliterated space, forming a spherical enlargement, which is movable from the testis. Transparency is present, but is distinguished with difficulty, unless in the lithotomy position. The disease is most frequent in early life, and is called "encysted hydrocele of the cord," probably to distinguish it from the so-called "diffused" variety. Of the two peculiar varieties now referred to, the first is a so-called encysted hydrocele of the cord, connected with the abdominal cavity by a long, fine tube; the second, an encysted hydrocele of the cord, with a fine tubular prolongation upwards, which ceases near the external ring, not communicating with the abdomen. The point of interest in the first case is the communication of the hydrocele with the abdominal cavity by means of a fine tube of unobliterated serous membrane; in the second, the existence of a tubular prolongation running upwards, but ending in a blind extremity outside the inguinal ring. In the first case a truss was applied; in the other acupuncture was resorted to, and proved successful after two or three repetitions. The globular collection of fluid with the upward neck-like prolongation suggests for it the name of "water-bottle hydrocele of the cord."

A CASE OF IMPERFORATE ANUS WITH FISTULOUS OPENING INTO THE BLADDER (*Medical Record*, October 6, 1877).—On April 11, 1876, a male child, two days old, was brought to Mr. Rowan, at the Melbourne Lying-in Hospital. On examination, an imperforate condition of the anus was found; there was no depression or mark to indicate its usual position. The abdomen was distended, tympanitic, and very tender. On the next day chloroform was administered, and an incision was made in the centre of the fundament, and, after cautiously dissecting to a depth of two and a half inches, the rectum was reached. An opening was made into it, and a large quantity of meconium and flatus escaped. The wound was kept open for a week with oiled lint, and a large bougie was subsequently passed every second or third day. Mr. Rowan shortly afterwards lost sight of the child, but it was brought back to him on the 1st of last February, in a worse condition than in the preceding April. The bougie had not been passed for three months, and for two months the child had passed nothing by the natural passage, all the motions escaping through the penis until the previous day, when the fore-skin became so narrow that the child could not pass even water without great difficulty. Examination showed that the anus was

closed about an inch from the orifice, and revealed in addition complete phimosis. Circumcision was performed, and a few days later the former passage into the rectum was reopened and enlarged sufficiently to allow the finger to be passed in. The rectum was found filled with hard feces, which did not come away until the next day. After the operation the finger was passed every day, and at the present time the canal seems perfect. Mr. Rowan thinks that a second operation would not have been required in this case if he had made the opening large enough at first to allow the finger to be inserted easily. The fact that defecation occurred through the bladder and penis for two months without causing cystitis or urethritis, is curious.

FRACTURE OF BOTH CLAVICLES IN AN OLD MAN (*The British Medical Journal*, September 29, 1877).—An old man fell from a scaffold thirty feet and fractured both his clavicles, but sustained no other injury. A thick elongated pad was passed under each arm and embraced the shoulders; the ends of both pads, being united behind, forcibly retracted the shoulders and retained them in position; the fractured ends of the clavicles were thus brought into apposition. The arms were then bandaged to the body, with the elbows drawn well backwards, and the man was placed on a water-bed in the supine position. The water-bed proved very useful as a means of keeping the man quiet by preventing him from turning on his side and so displacing the bandages. He was kept thus for three weeks, with an excellent result.

VALVULAR DISEASE OF THE HEART WITH DILATATION OF THE AORTA (*The British Medical Journal*, September 29, 1877).—An old-looking man, a farm-laborer, aged 54, complained of troublesome cough and great difficulty in breathing, coming on in attacks if he moved about, and especially if he went up hill. He complained of no pain, dysphagia, or other sign of intrathoracic pressure. He had been able to continue his work till a month before admission to the hospital. He had never had rheumatic fever, and the only illness he remembered was an attack of dropsy in the legs twelve years ago. Physical examination showed a locomotor pulse, well seen in each radial artery and at the bend of the elbow; the pulses were equal and regular. The heart's impulse was heaving and forcible; evidently the heart was much hypertrophied, and the apex-beat was displaced outwards and downwards. The area of cardiac dullness was not enlarged, though the shock of the cardiac impulse was felt over a large area; this appeared to be due to the hypertrophied heart being overlapped by an emphysematous lung. The carotids were not seen to throb; but in the supra-sternal notch between the sterno-mastoids a large blood-vessel was distinctly seen pulsating as it rose

out of the thorax at each systole, and the finger placed over it appreciated a distinct and prolonged thrill. There were also signs of disease of the aortic valves and mitral regurgitation. On listening over the vertebra prominens, loud tracheal breathing was heard as if from the windpipe being pressed backwards by a tumor in front; the voice also at this spot was very tubular. The aorta appeared to be dilated without the formation of any sacculated aneurism.

MISCELLANY.

BALSAM FOR THE PREVENTION OF SYPHILITIC INFECTION.—(*Annal de Polli; Allg. Med. Cent.-Ztg.*, No. 74, 1877).—Chloral hydrate, acid salicylic, glycerine, and sulphate of sodium, aa one and a half parts; aq. dest., four parts; spts. vini, one part, to be heated to 40° , and thus kept for a few minutes till the complete solution of the sulphate of sodium, then filtered, and to have sufficient water added to keep a perfect solution. Prior to coitus the organ is to be bathed in this, which will form a light coating and by its chloral vapor will remove all danger of infection.—*The Clinic*.

METHODS OF PRESERVING BODIES PRACTISED IN LONDON.—At Guy's Hospital the process employed consists of first injecting a quart of watery solution of arsenic, then a quart of an arsenical solution of the same, whilst finally eight quarts of ordinary glycerine are injected. The bodies, soaked over with glycerine, are then sealed in mackintosh and placed in ordinary shells. The general result has been extremely good, the few exceptions being those of bodies parts of which had become decomposed before they could be injected, or which had subsequently, from some accident, become desiccated. It is noteworthy that bodies prepared by the above method admit of being injected with paint three or four months after their first preparation.

At St. Bartholomew's Hospital, bodies are preserved in Garstin's Fluid.

At King's College, Stirling's process is adopted. Each body is first injected with at least ten pints of a solution containing one pound of arsenic and about six ounces of carbonate of potassium. About one-third of this solution is injected very slowly by means of hydrostatic pressure. The solution being raised about four feet above the level of the body, on the fourth day the "paint" is injected as usual. The whole body is then carefully covered by means of bandages soaked in carbolic oil, and is subsequently kept in a cool, damp chamber.

At St. Mary's Hospital the stomach, small intestines, and spleen are first removed; then the abdominal cavity is filled with cotton-

wool saturated with a mixture of four drachms of carbolic acid to one pint of methylated spirit. The extremities are wrapped in separate pieces of cotton cloth dipped in spirit, and the whole tightly bound up in mackintosh. The arteries are injected first with a saturated solution of arsenious acid in boiling water, and then, whilst this is still warm, a mixture of size, vermilion, and plaster of Paris is thrown into them. The result of this method of preservation is most satisfactory.

HOT-WATER INJECTIONS IN UTERINE HEMORRHAGES.—M. Ricord says in the *Union Médicale*, June 5, "Hemorrhages in general, and metrorrhagias in particular, whatever may be their proximate cause, are, as is well known, very frequently difficult to arrest. Hæmostatics given internally, astringent injections of every description, plugging, etc., generally fail. But one means has almost had infallible success in my hands, viz., the injection of hot water at 50° C. (122° Fahr.), carried directly against the cervix uteri by aid of the tube of an irrigator from which the caoutchouc canula has been removed."—*The Doctor*.

PHOSPHIDE OF ZINC IN HYSTERIA.—Dr. Em. Gros (*Le Mouvement Médical*) speaks of a case of long-continued hysteria cured in five days by phosphide of zinc. Four to eight milligrammes (one-fifteenth to two-fifteenths of a grain) in granules were given with food twice a day. The proportion of phosphorus in the phosphide is 1 in 8.—*The Doctor*.

A TOUGH SUBJECT.—Mr. W. F. Murray records (*Indian Medical Gazette*, September 7) the case of a man bitten in the abdomen by a crocodile, left without care four days, admitted to hospital with seven inches of omentum protruding and afterwards becoming gangrenous, and yet recovering.

PODOPHYLLIN.—Professor Rothrock states that one fact in regard to the May-apple is often overlooked, and that is, that the leaves are just as active as the root. If the leaves are cooked and eaten as a pot-herb, very violent and dangerous symptoms may be produced. The same fact holds true of *bloodroot*, the leaves being as active as the root.—*The Doctor*.

In Germany it has recently been legally decided that any druggist who, without direct sanction from the physician, renews a prescription containing any powerful ingredient, subjects himself to severe penalty.

Two deaths having recently taken place in Dublin in which the parties were choked by a piece of meat sticking in the throat, Dr. Beveridge, R.N., writes to one of the local papers to state that a well-authenticated case of recovery from choking under similar circumstances has been detailed,—the guiding principle with the view of expelling the foreign body being the induction of reflex action by "blowing in the ear."

DR. ANGUS HALDANE has been elected

Ordinary Physician for Diseases of Women in the Edinburgh Royal Infirmary, *vice* Dr. Matthews Duncan, resigned.

In an editorial notice of a recent rambling and irrelevant communication to the *New York World* on the subject of Medical Culture, written and signed by a New York physician, the *Medical Record* winds up with the following suggestive quotation and remark: "As an incentive to look at the top of the profession, or 'up aloft' for success, we are informed that 'he who seeks the professional aid of the loftiest is pretty sure to seek that which is efficient, and which will not be withheld from him,' and then, after a concluding sentence, follow the name and office address of the writer."

SÉE recommends with confidence a combination of digitalis and iodide of potassium in the treatment of cases of great sexual excitability with tendency to hypochondria, etc., where, for instance, erection and ejaculation are produced by sight, touch, or thought about one of the opposite sex.

THE total number of medical students this year in London is 1879, against 1793 last session,—an increase of 86.

NOTES AND QUERIES.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The Committee on Lectures of the College of Physicians give notice that they are ready to receive the names of candidates for the now vacant position of Lecturer.

JOSEPH LEIDY, M.D.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 4, 1877, TO NOVEMBER 17, 1877.

HAMMOND, JNO. F., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for six months from November 1, 1877. S. O. 227, A. G. O., November 6, 1877.

FORWOOD, W. H., MAJOR AND SURGEON.—Assigned to duty as Post Surgeon at McPherson Barracks, Atlanta, Ga., relieving Surgeon Bill. S. O. 175, Department of the South, November 3, 1877.

STORROW, S. A., MAJOR AND SURGEON.—Relieved from duty in Department of California, and to report in person to Commanding General, Department of the Platte, for assignment. S. O. 232, A. G. O., November 13, 1877.

BUCHANAN, W. F., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Chattanooga, Tenn. S. O. 176, Department of the South, November 6, 1877.

KINSMAN, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post Surgeon at Mount Vernon Barracks, Ala. S. O. 163, Department of the Gulf, November 4, 1877.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 166, Department of the Gulf, November 9, 1877.

SHUFELDT, R. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany companies of 5th Cavalry to Fort D. A. Russell, Wy. T. S. O. 126, Department of the Platte, October 29, 1877.

EDWARDS, L. A., LIEUTENANT-COLONEL AND SURGEON.—Died at Washington, D.C., November 8, 1877.



PHILADELPHIA, DECEMBER 8, 1877.

ORIGINAL LECTURES.

CLINICAL LECTURE ON A CASE OF ADDISON'S DISEASE.

BY WILLIAM PEPPER, M.D.,

Professor of Clinical Medicine in the University of Pennsylvania.

Reported for the *Philadelphia Medical Times*.

THE case to which I shall direct your attention to-day is that of a sailor, 52 years of age, born in London. Both of his parents are dead: his father died seventeen years ago. The man has been at sea since he was eighteen. Ten years ago, while on a voyage, he had a severe attack of scurvy lasting ten months. He recovered entirely from that attack, but has suffered much of late years from sore throat, in the shape of ulcers on the pharynx. He has never had any venereal disease. On one occasion he had a fall from the rigging of the ship to the deck, which rendered him momentarily senseless and produced a round, indented fracture of the outer table of the skull. During the winters of 1875 and 1876 he was exposed to very severe weather, and was in the habit of going about without a hat. Last winter and spring he complained of constant flatulence and nausea with loss of appetite: he did not, however, give up work entirely until last August. Lately he has suffered from shortness of breath and some palpitation, with occasional spells of vomiting. Only last week he had a severe attack of vomiting, accompanied by a *pulse of 130 and upwards, and the most excessive muscular debility and emaciation. The attack lasted only three or four days, and in that short time he lost fifteen pounds in weight.* It occurred without any warning, and without any irregularity of the bowels. (Strange to say, very soon after the most violent nausea and vomiting, he has the appetite for, and will eat, a hearty meal with but slight indigestion.) His stomach is at times distended, and he feels a load and weight at the epigastrium. Up to the 24th of August last, he says, he usually had a fine, ruddy color; now there is very evident bronzing at certain points on his neck and forehead, and on the backs of his hands.

This could not be the effect of the sun, for he has not been outside of the hospital, except for an hour, or so, each day, since August. The discoloration is becoming more and more marked. The gastric symptoms, which have been violent and irregular, are hard to explain upon general principles, for he has never been addicted to the use of articles which could cause indigestion; has never used alcohol, nor tobacco. Again, the symptoms have not at any time been those of chronic disease of the stomach, such as cancer, or ulcer. Careful examination has shown me that there is no obstruction of the pyloric orifice by cancer, and no fibroid thickening there. There is no history of constant lancinating pains, and local tenderness upon pressure, which are among the usual symptoms of cancer, or ulcer of the stomach. There has been no blood mixed with the vomited matters. There is no enlargement of the spleen. There is no jaundice, and no bile in the urine. The stools have always been of the normal color. Apparently therefore there is no hepatic disease. In some diseases of the liver there may be found a dark discoloration of the skin, but in that case the pigment is uniformly deposited over the whole surface of the body, while here it is only found in particular spots. In chronic malarial poisoning the general health is much broken down, there is dyspepsia, slight palpitation, and some deposition of pigment in the skin. Here there has been no malarial history, no enlargement of the spleen nor liver, and examination with the microscope has failed to reveal any pigment circulating in the blood. Moreover, the patient has spent his whole life on the sea, where such a thing as malaria is almost unheard of. The lungs are healthy, and there is no heart disease. The urine has been examined and found normal.

The characteristic, progressive failure of strength; the disposition to faintness and exhaustion; the palpitation and violent, causeless nausea, and vomiting; the steadily increasing deposit of pigment on certain exposed parts of the body; the entire absence of any cardiac, pulmonary, hepatic, splenic, renal, or gastric disease—all stamp indisputably the present case as an instance of that disorder, so rare in America, known as Addison's Disease.

As is well known, this disease is generally

connected with a peculiar lesion of the supra-renal capsules, and has for its most marked external symptom a pronounced bronzing of the skin, which is a quite constant though not an invariable condition. The supra-renal capsules are small, triangularly shaped structures attached to the upper surface of the kidneys, but bearing no relation with them, and only known to us as ductless glands. They consist of an outer layer of yellow cells, or cortical substance (bound in by a strong fibrous capsule), surrounding a triangular space filled with dark-red, pulpy tissue. They have no duct, and no known function to perform in the animal economy. Their supplying arteries and veins are unusually large in calibre, and a very great number of minute nerve-fibres run to them from the solar plexus and semilunar ganglia. They have, in fact, a much richer supply of nerves than the kidneys themselves. There have been numerous hypotheses as to their function, or functions. Some have supposed that, by reason of their immense supply of sympathetic nerve-fibres, they have some vital connection with the sympathetic nervous system, while others have imagined them to be workshops for the elaboration of the red corpuscles, or the pigment of the blood. But when, as in a number of cases in the lower animals, extirpation of them has been effected, no greater change has been noted in the composition of the blood, or in the general health, than might be expected to attend any other such serious operation.

These little bodies may be the seat of tubercular deposits, of malignant disease, and of slow, fatty degeneration. In none of these diseases of the supra-renal bodies do we find the peculiar symptoms of the present case.

Addison's Disease is a chronic inflammation of these ductless glands, which, in the course of the disorder, become enlarged to two or three times their natural size. If cut open in the early stages, we find them a mass of thick, inflammatory growth, bound in by the tough, fibrous capsule. Later, this inflamed tissue passes successively through the stages of fatty and cheesy degeneration. If the disease reach a still more advanced stage before death supervene, a dissection of one of the capsules will lay bare to us a mere fibrous sac, containing a puriform liquid, or withered and puckered, its only contents a few gritty particles, the calcareous results of the cheesy degeneration. Cohnheim has

noted, in *Virchow's Archives*, the changes in the marrow of the bones in progressive pernicious anæmia; but as yet no such lesions have been discovered in Addison's Disease, for the simple reason, possibly (for many things seem to point in that direction), that the marrow of the bones has not yet been examined in those who have died of this disease.

The complaint we are considering presents a number of different symptoms. In very few cases do we find all the various symptoms of the disorder combined. Generally, one or more particular sets of symptoms predominate, to the exclusion of the rest. In the present instance, those which we notice most prominently are the violent nausea and vomiting, the gradual, increasing asthenia, the well-marked local bronzing, and the rapid loss of flesh during the acute attacks of gastric disturbance. The English authorities state as the result of their experience that rapid or even noticeable emaciation is a very rare occurrence in the course of the disease. I have no doubt that this is very true in the vast majority of cases; but in this case, and in a previous one which has come within my observation, the very opposite has been found to hold. You have just heard how this man lost fifteen pounds of flesh in the course of three or four days. In the other instance there was steadily progressive emaciation from the first warning of the disease up to the hour of death.

As regards the failure in strength; this is generally the earliest and most characteristic symptom. It may come on very slowly, or so rapidly as to simulate an attack of typhoid fever. When the patient is quiet, he may feel quite strong and well, but the instant he makes any exertion he finds himself faint and as feeble as an infant. Usually, therefore, he shows an entire lack of energy; perfect willingness to lie in bed day after day, and month after month. This extreme muscular debility is most irregular in its growth; the patient is worse and then much better again, well enough to do a little work.

The progressive discoloration of the skin is hard to explain. It is not to be confused with any other deposition of pigment. It is mainly a bronzing of the exposed parts of the body; the neck from the roots of the hair to the line of the collar; the forehead; the backs of the hands and the forearms; the small of the back; the raphé

of the belly; the axillary and popliteal spaces; the scrotum and perineum; every spot where the skin is exposed to the air and sunlight, or where it is covered by the clothes and the circulation of the part is rapid. Sometimes there is a bronzing of the mucous membranes, the lips, gums, and tongue. There is none of this here. In some cases the whole body is discolored. This discoloration is peculiar in hue; like sun-burn, or the mahogany tinge of the Creole, Malay, or mulatto. In this case it is more characteristic than usual; the edges are abrupt and do not shade off gradually. I have been able to notice the peculiar fact, spoken of by others, that the discoloration is deeper during the acute gastric attacks, and clears up as they pass off. This discoloration is the least constant and least characteristic of all the symptoms. There is pigment deposited on the cheeks and forehead in some uterine diseases. So in pregnancy, chronic peritonitis, and abscess, particularly in deep spinal abscess.

How can this disease, centred in such comparatively unimportant structures, give rise to such various and grave symptoms? I think I can give you a rational explanation. The asthenia may, I think, be attributed to the prolonged reflex irritation of the nerve-centres; the frequent action of the heart with small, feeble pulse, and the disposition to breathlessness, or even syncope, upon exertion, may be referred to the implication of the pneumogastrics and phrenics, or to irritation of the thoracic ganglia of the sympathetic; the irritability of the stomach, with nausea and vomiting, and the occasional abdominal pain and diarrhœa, would point to interference with the solar plexus and semilunar ganglia; and it is further possible that the catarrhal inflammation of the mucous membrane of the stomach and intestines may depend upon disturbance of these same ganglia. The presence of the air and sunlight has something to do with the deposition of pigment. There is also an increased normal tendency to pigmentation by the irritation of the nerves. The pigment is drawn to a part by anything that stimulates the circulation.

The general symptoms are also, no doubt, partly due to the progressive interference with the elaboration of the blood. In some cases there may be very marked leukæmia present. There is no alteration of

the blood in this case. (The only change noted is the abnormal inclination of the red blood disks to form long rouleaux.) It must be remembered also that when bodies undergo caseous degeneration, they tend to infect the system. Their degeneration is attended usually by dyscrasia, and the production of tuberculosis and anæmia.

The course of this disease is generally from one to five years. The prognosis is grave. No cases taken at this stage have ever entirely recovered. The disease may, however, be temporarily checked. Sudden death is frequent from fatal syncope.

As regards the treatment; rest is chiefly indicated, with good hygienic influences and wholesome food. In some cases an exclusive milk diet does great good. The bowels and other excretions should be carefully attended to. No long journeys should be allowed. Among medicines there is no specific. The system should be sustained on arsenic, iron, and cod-liver oil. Counter-irritation over the seat of disease may be useful in early stages, as also faradization with mild currents. On general principles, nitrate of silver and iodide of potassium should be administered. The former drug is of great use where there is irritability of the stomach and intestines. Where the vomiting is violent and otherwise uncontrollable, chlorodyne or temporary enemata may be used. Where there is palpitation and dyspnœa, digitalis is invaluable. The best forms of iron to be employed are the iodide and sesquichloride. A very good prescription is the following one recommended by Greenhow:

R Ferri sesquichloridi,
Chloroformi, āā ʒj xv-xx;
Glycerinæ, ʒij. M.

S.—Three times a day in water.

I generally prescribe the dialyzed iron. Phosphorus by reason of its effect upon the elaboration of the blood was formerly used in this disease, but I do not place much confidence in it. Alcohol should be given in small quantities and in whatever form is best assimilated by the stomach. Strychnia may have done good in some cases. Extirpation of the capsules is of course out of the question in the present state of our knowledge.

TETANUS.—Dr. A. Roach reports (*St. Louis Clinical Record*, October) a case of traumatic tetanus recovered under the use of chloral and curara.

ORIGINAL COMMUNICATIONS.

THE INHIBITORY FUNCTION OF THE SPINAL CORD.

BY ISAAC OTT, M.D.,

Late Demonstrator of Physiology at the University of Pennsylvania.

IT has been demonstrated that when either a cold- or a warm-blooded animal has its medulla oblongata severed, the spinal reflex activity becomes much more intense. Setschenow* discovered that mechanical, chemical, or electrical irritation of the thalami optici and corpora quadrigemina causes a depression of spinal reflex actions. Herzen, in Schiff's laboratory at Florence, attempted to refute these facts, but so far has not accomplished it. Cyon has tried to explain the result in another manner; but Setschenow has ably replied to all the objectors. To measure reflex excitability I employed Türk's method. About $\frac{1}{20}$ per cent. solution of sulphuric acid was employed, into which the foot was dipped, and the time till the foot was withdrawn counted by a metronome beating one hundred times per minute. The frog was previously deprived of his cerebrum by a transverse cut just in front of the membrana tympani. The reflex actions of a frog in such a state—that is, brainless—do not differ from those with the cerebrum intact. Such a frog—that is, with cerebrum ablated—is a living machine, only moving when a spring or nerve is touched. I do not mean to say that the cerebrum has not the power to call the reflex inhibitory ganglia into exaggerated activity: it is highly probable that the cerebrum reinforces them. When a brainless frog has his thalami optici or corpora quadrigemina irritated by section or by a piece of chloride of sodium, there is a great fall in reflex activity. If now the medulla oblongata is removed, this is followed by a considerable rise of spinal reflex excitability. In my experiments I found that the brown-spotted frog was the most suitable for experimentation, and all the experiments were performed with it. After the use of the acid solution the foot was immediately immersed in water, so as to wash off the acid and prevent its

action on the skin. The temperature must not be too high, or reflex activity is soon lost. Loss of much blood acts in a similar manner. Setschenow† also first discovered that after removal of the cerebrum, irritation of the sciatic also produced a depression of reflex activity.

The following experiment illustrates it:

Exp. I.—Frog; cerebrum ablated on a previous day.

	Metronome Beats.
2.55 P.M.	3
2.57 P.M. Sciatic nerve irritated at o, Dubois' induction apparatus, for five seconds.	
2.58 P.M.	6

Here the fall of reflex action is due to the irritation being carried to the centres of Setschenow, which are thrown into exaggerated activity and thus greatly depress spinal reflex action. Weil‡ discovered that if in a frog whose cerebrum is ablated, and the heart slowed, the centres of Setschenow are stimulated for about ten minutes, when their power is a vanishing quantity. In the succeeding experiment the heart was ligated and cerebrum ablated:

Exp. II.—Frog, at

	Metronome Beats.
10.10 A.M.	3
10.17 A.M.	30
10.18 A.M.	15
10.32 A.M.	14
10.33 A.M. Sciatic irritated at o, Dubois, for fifteen seconds.	
10.34 A.M.	14
10.47 A.M. No reflex action.	

Here the centres of Setschenow were stimulated, and reflex excitability was reduced; but when they were suffering a growing paralysis of power the reflex activity partially recovered. This experiment also demonstrates a new fact, that near death, after removal of the cerebrum and ligation of the heart, irritation of the sciatic did not depress reflex activity. This would be expected when the centres of Setschenow are gradually losing their inhibitory power. The same fact is shown in the next experiment:

Exp. III.—Frog; cerebrum ablated a few hours before.

	Metronome Beats.
8.30 A.M. Heart ligated and sciatic prepared.	
8.31 A.M.	12
8.32 A.M. Sciatic irritation at o, Dubois, for ten seconds,	17

* Physiologische Studien, etc., Berlin, 1863.
S. und Paschutin, Neue Versuche am Hirn und Rückenmark, Berlin, 1865.
Pflüger's Archiv, 1876.

† Ueber die elektrische und chemische Reizung des Sensiblen Rückenmarksnerven des Frosches, Grätz, 1868.
‡ Reichert's Archiv, 1871.

Metronome Beats.

8.50 A.M.	20
8.57 A.M.	20
9.05 A.M.	22
9.06 A.M.	Sciatic irritated at o, Dubois, for fifteen seconds.
9.07 A.M.	22

As is seen, near the final extinction of reflex activity, irritation of the sciatic does not reduce reflex irritability. Certainly, too long an irritation will depress reflex activity by exhausting the ganglia concerned. It has occasionally happened near death that irritation of the nerve did not reduce the activity of the apparatus concerned in reflex action, whilst in the next minute death ensued. Here the ganglia must have had their vitality greatly reduced by the irritation, yet the reflex apparatus was set in motion just as quickly as before the irritation.

In the last experiment it will be noticed that in the commencement of the experiment irritation of the sciatic reduced the reflex power, the centres of Setschenow still being in activity. In ligation of the heart the spinal blood-vessels are necessarily gorged with blood, and the oxygen is soon used up in tissue-metamorphosis, and carbonic acid is developed. Here the want of oxygen calls the inhibitory centres into increased activity, but, the want of pabulum growing greater, they soon lose their irritability. That irritation of a sensory nerve will call the vaso-motor centres into action, and diminish the amount of blood in the spinal capillaries, is true; but when the heart is ligated it is exceedingly improbable that spinal anæmia has anything to do with the above phenomena. Setschenow also discovered that if after section of the medulla the sciatic is irritated, there is a fall in reflex activity.

Exp. IV.—Frog; at

Metronome Beats.

3.09 P.M.	Medulla oblongata severed.	
4.15 P.M.		13
4.16 P.M.	Irritation of opposite sciatic at 140 millimetres, Dubois, for thirty seconds.	
4.17 P.M.		19
4.30 P.M.		19
5 P.M.		13

This inhibition of reflex action also takes place when the sensory nerves of a warm-blooded animal are irritated below the section of the spinal cord. Nothnagel has also studied this action, and, like Setschenow, believes that there are inhibitory ganglia in the spinal cord. I shall at-

tempt in this paper to base this hypothesis on more stable ground. Not only do I believe that there are ganglia inhibiting spinal reflex acts, but also spinal vaso-motor centres. Irritation of the fibres of the sympathetic also reduces reflex action, as is shown in the next experiment:

Exp. V.—Frog; medulla oblongata severed; intestine bared at

Metronome Beats.

2.45 P.M.		
3 P.M.		5
3.02 P.M.	Intestine irritated with Dubois' coil, at 75 millimetres, for fifteen seconds.	

3.04 P.M.	9
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The irritation of sympathetic fibres reduces spinal reflex power, an effect similar to that seen with the nerves of animal life. Simultaneous irritation of the nerves in both extremities was followed by similar results:

Exp. VI.—Frog; medulla severed at

Metronome Beats.

1.40 P.M.		
2.05 P.M.		4
2.06 P.M.	Irritation of the skin of both extremities, at 75 millimetres, Dubois' apparatus, for thirty seconds.	

2.07 P.M.	7
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Nothnagel* has proved that in a decapitated frog, when a bared sciatic is irritated there is only on the closing and opening of the current a reflex movement in the opposite leg; but if after a period of twenty-four hours the same nerve is irritated, there will be clonic convulsions in the opposite extremity. The sensibility is also exaggerated, due, as he thinks, to the inhibitory centres in the decapitated animal losing their power sooner than the ganglia concerned in reflex movement. If the sympathetic nerve-fibres are irritated, there is usually little or no reflex movement of the extremities. If now strychnia is given, there is immediately seen a reflex movement of the extremities, as is shown in the following experiment:

Exp. VII.—Frog; strychnia, subcutaneously, at 10.20 A.M. 10.38 A.M., the medulla oblongata severed, and the intestines exposed and pinched, when active reflex movements took place. If strychnia is given, and a sensory nerve irritated, there also ensues a reduction of reflex excitability.

Exp. VIII.—Frog; received .002 gramme of strychnia subcutaneously. In a few minutes convulsions ensued; co-ordinating power lost. The weakest current of Dubois' apparatus

* English Journal of Physiology, Nov. 1870.

that would excite a convulsion was 135 millimetres for thirty seconds. After this irritation stronger electric currents were needed to produce convulsions. Direct irritation of the spinal cord also reduces spinal reflex activity.

Exp. IX.—Frog; medulla severed at
Metronome Beats.

12.45 P.M.

12.55 P.M.

4

12.58 P.M. Irritation of lower section of the cord with a needle.

1 P.M.

9

Now, if slowing of the heart by solution of nitrate of potassium locally applied, in five to ten minutes causes vanishing of the inhibitory power of Setschenow's centres and an absence near death of reduction of reflex power upon irritation of the sciatic, then, after section of the medulla the supposed spinal inhibitory centres after a time should not produce a depression of spinal reflex excitability upon irritation of the sciatic. Certainly, in all these irritations of the sciatic they must not be continued so long as to exhaust the spinal cord, which would certainly reduce reflex activity.

I shall now demonstrate that such an event happens.

Exp. X.—Frog; medulla severed, heart ligated, and sciatic prepared.

Metronome Beats.

4.5 P.M.

4

4.10 P.M.

4

Sciatic irritated at 50 millimetres, Dubois' apparatus, for thirty seconds.

4.12 P.M.

6

4.18 P.M.

7

Sciatic irritated at 50 millimetres, Dubois' apparatus, for thirty seconds.

4.20 P.M.

7

If the sympathetic is irritated, the effect is the same.

Exp. XI.—Frog; at 1.25 P.M. heart ligated, medulla severed; a coil of intestine exposed.

Metronome Beats.

1.38 P.M.

4

1.39 P.M. Intestine irritated at 0, Dubois' apparatus, for thirty seconds.

1.40 P.M.

4

If the cord is locally irritated there is no reduction of reflex power.

Exp. XII.—Frog; at 9.28 A.M., heart ligated, medulla severed.

Metronome Beats.

9.38 A.M.

6

9.39 A.M. Irritation of lower section of the spinal cord with a needle producing twitching.

Metronome Beats.

6

9.40 A.M.

6

9.44 A.M.

To my mind, the best explanation of this series of facts is that there are in the gray matter of the spinal cord ganglia which inhibit reflex action; that the spinal inhibitory ganglia and spinal reflex ganglia concerned in reflex movements are antagonistic forces; that the inhibitory ganglia, like those in the heart, regulate and co-ordinate reflex action; that when strychnia is given, the ganglia of reflex movement become so exaggerated in activity that the inhibitory ganglia lose all control over them; there is no co-ordination, and convulsions result. The idea entertained by some that strychnia paralyzes the inhibitory ganglia, and thus increases reflex excitability, is, to my mind, perfectly untenable. If strychnia does anything with a nerve-centre it certainly excites it: besides, sensory irritation reduces the reflex excitability of a spinal cord affected by strychnia by calling the inhibitory ganglia into action, as a stronger electric stimulus was needed to excite convulsions after a previous irritation. Strychnia excites the monarchical vaso-motor centre, the spinal vaso-motor centres, the centres of special sense, and so on. How are we to explain the action of morphia on the spinal cord? It at first reduces during the first few hours the reflex irritability; during the next ten hours the reflex activity rises, causing convulsions, when, finally, the cord returns to the normal state. Here the inhibitory ganglia of the spinal cord are first called into action, but finally the reflex ganglia are so stimulated that they overcome completely the inhibitory ganglia, and convulsions result. With the decrease of spinal reflex excitability the spinal inhibitory ganglia regain their co-ordinating sway. Gelseminic acid also reduces spinal excitability, and afterwards produces tetanus. The spinal inhibitory ganglia may be compared to a fly-wheel or governor of an engine, whilst the reflex ganglia are similar to a steam motor. These two kinds of ganglia are in constant activity, and play against each other as the cardio-inhibitory ganglia do against the cardio-motor. Now, if this hypothesis is true, when an agent is administered which paralyzes inhibitory ganglia wherever found, then irritation of a sensory nerve should be without effect. In atropia an agent is

found possessing the just named properties. When it was given it was discovered that irritation of a sensory nerve after spinal section had no effect in the reduction of reflex action. The following experiments show this. I thought it best to give it on a previous day, as Fraser, in his beautiful researches, has found that small doses require some hours to develop convulsions. I do not by any means doubt but that atropia also greatly excites the reflex ganglia, just as it does the cardio-motor ganglia whilst it paralyzes the cardio-inhibitory.

Exp. XIII.—Frog; at 10.20 A.M. medulla divided, sciatic bared; on previous day .004 gramme of atropine subcutaneously.

Metronome Beats.

10.45 A.M.		4
10.46 A.M.	Sciatic irritation at o, Dubois' apparatus, for forty-five seconds.	
10.47 A.M.		4
10.53 A.M.		5
10.54 A.M.	Sciatic irritation at o, Dubois' apparatus, for thirty seconds.	
10.55 A.M.		5
The pneumogastrics were paralyzed.		

Exp. XIV.—Frog; at 11.12 A.M. medulla severed, sciatic prepared; atropine .004 gr. on previous day.

Metronome Beats.

11.22 A.M.		5
11.25 A.M.	Irritation of sciatic at o, Dubois' apparatus, for thirty seconds.	
11.31 A.M.		6
11.32 A.M.	Irritation of sciatic at o, Dubois' apparatus, for thirty seconds.	
11.33 A.M.		6
The pneumogastrics paralyzed.		

Here atropine in the course of twenty-four hours paralyzed the spinal inhibitory ganglia, and sensory irritation did not reduce the reflex activity of the spinal cord. Certainly if an irritation is long continued spinal reflex power will be decreased. Goltz* has shown that if a frog has his cerebrum ablated and the skin irritated, the frog will croak. If now a sensory nerve is strongly stimulated, this croak will be prevented. It has also been shown by Goltz that a stroke on the abdomen of a frog arrests its heart through the inhibitory influence of the vagi. If now a sensory nerve is strongly stimulated, this experiment fails. Here the ganglia inhibiting reflex action have temporarily inhibited the usual reflex acts; the reflex mechanism is not so easily excited as before. In a child, where the inhibitory

ganglia of reflex action are feeble, irritation of the sympathetic fibres by undigested food easily throws the reflex ganglia into uncoordinated activity. But in adult life, when the inhibitory ganglia have greater power, indigestion does not produce convulsions, except in individuals whose general strength is feeble and who consequently have weak inhibitory centres. In certain cases of localized myelitis, when voluntary movement is abolished, movements occur which are very strong and uncoordinated. So much tremendous force is evolved in such an irregular manner as is not seen in health, when the inhibitory ganglia are in control.

GANGLIA INHIBITING SPINAL VASO-MOTOR CENTRES.

When a frog has his medulla severed, is made motionless by woorari, the web of his foot placed in the field of a microscope, and a sensory nerve is irritated, the capillaries contract. If strychnia is given, this contraction is much more intense. Dr. Schlesinger, in experimenting on rabbits, found that strychnia, after section of the spinal cord, elevated the blood-pressure, and that sciatic irritation elevated it still more. Dr. Klapp has repeated these experiments on cats, and found that after spinal section strychnia increased the arterial tension, and sciatic irritation also increased it. Dr. Klapp's experiments have been confirmed by Heidenhain and Kabiserski. When a sensory nerve is irritated there is a contraction of the capillaries supplied by the splanchnics, and a widening of the vessels of the skin. Now, Kabiserski found that when strychnia is given the vaso-motor nerves contract, instead of dilating, the blood-vessels of the skin. These facts, it seems to me, are easily explained by the hypothesis that strychnia excites the spinal vaso-motor centres to such a degree that the spinal ganglia inhibiting them are unable to control them, and contraction of the vessels results upon an irritation of a sensory nerve. Ordinarily, stimulation of a sensory nerve would call into action the inhibitory ganglia controlling the spinal vaso-motor ganglia and prevent a rise of blood-pressure.

In the course of the above investigations I have made about forty experiments. The cell used to generate electricity was a Leclanché.

* Beiträage, Berlin, 1869.

The following are the conclusions :

1. As there is in the brain a monarchical vaso-motor centre, and in the spinal cord weaker vaso-motor centres, so are there in the brain monarchical inhibitory centres of reflex actions, and in the spinal cord weaker inhibitory centres of reflex movements.

2. There are also ganglia in the spinal cord inhibiting spinal vaso-motor centres.

A CASE OF ARSENICAL POISONING TREATED WITH DIALYZED IRON.

BY THOMAS B. REED, M.D.

A CASE of arsenical poisoning occurred lately in my private practice, which seems to be valuable enough for publication, both on account of the completeness of the details and the intelligence and reliability of the patient, but especially as it is, so far as I am aware, the first case where the new remedy of "dialyzed iron" has been put to the test as an antidote.

As I was leaving my office one morning, a few weeks ago, a young lady patient, Miss S., hastily entered, with a face indicative of intense pain and nervous disturbance, saying, "Doctor, I am poisoned." Her story was as follows. While attending to the wants of a valuable servant who was sick and confined to her bed, Miss S. found hidden away in the servant's trunk a paper of arsenious acid, which had been procured by Mrs. S. some weeks before, for use as a poison for rats. As this servant had been in ill health for some time, and morbid and melancholy, Miss S. at once very naturally, and no doubt very rightly, supposed that she had secreted the poison for the purpose of taking her own life. Quietly placing the packet of arsenic (which was open) in her pocket, she continued her duties, intending at the earliest moment to put it in a safe place. Days elapsed, the arsenic was forgotten, stored away in the pocket of her wrapper, until this unlucky morning, when, putting a couple of handfuls of gum-drops and bon-bons into her *arsenic pocket*, she sat down to her sewing-machine and her confectionery. She noticed from time to time, as she sewed, more powder upon the drops than seemed usual, but she continued quietly to dust them off as she ate, and went on with her work. *Can anything be more absurdly tragic than this unconscious suicide, deliberately eating gum-drops powdered with arsenic?* Probably an hour and a half passed in this innocent amusement, when suddenly "becoming deathly sick, instantly followed by intense pain," as if, as she quaintly expressed

it, "she had had a pure mustard-plaster on the inside of her stomach," she was roused to the consciousness that some strange mischief was at work. Terrified on remembering the arsenic, she attempted, unsuccessfully, to relieve her stomach with warm water; then, unwilling to alarm her mother, who was also an invalid, she hastily threw on her street dress and hat and hurried to my office, about two blocks away. Fortunately for both of us, I had upon my table a sample bottle of dialyzed iron (John Wyeth & Bro.), and as soon as she told me she had taken arsenic, and before she began her story, I administered a half-tablespoonful of the iron well diluted in a tumbler of water. This gave her almost instant relief. I repeated the dose in ten minutes, and then gave her a bottle of the iron, directing her to take a similar dose every half-hour, and, later, every hour during the day. I saw her at her home in a few hours after, but she had had no return of her pain, except some slight cramp in the lower bowel and limbs; and a dose of magnesia at night, with mucilaginous drinks, soft food, with occasional doses of the iron well diluted, kept up for a few days, completed her cure. At my request, the day after her attack, Miss S. put into my hands the pocket cut from the wrapper, which she could not be persuaded to touch after her poisoning. This I transferred to a reliable analytical chemist, from whose report of his examination, now in my possession, I condense the following. "In the pocket of a chintz dress I found a small packet labelled Arsenic,—Poison,—and in this packet a second envelope, open on its long and upper side, containing a white powder. Both outer and inner envelopes were worn as letters carried in pockets are. Between the outer and inner envelopes was a white powder, and in the pocket itself, mixed with the powder, I found two (2) sugar-crystallized, soft gum-drops, and one (1) sugar-coated bon-bon, all three (3) richly covered with the powder. The powder, which with a brush I took away from the gum-drops, and the dragée, weighed $3\frac{1}{2}$ grains, and the remaining powder, after separating the gum and sugar, weighed $2\frac{1}{16}$ grains. In the pocket I found also $6\frac{3}{8}$ grains of the white powder. The powder obtained from the gum-drops and dragée gave all the tests arsenious acid gives."

What amount of arsenious acid my patient swallowed, it is, of course, impossible to say. It is certain that from this open package of arsenic a considerable quantity escaped into the pocket, and the gum-drops were mixed with it, as she states "that she had to dust the powder off upon her work as she ate," and the three remaining after show $2\frac{1}{16}$ grains of arsenious acid upon them on examination by the chemist. I have perhaps been unnecessarily full in the details of this case, but

I think they have established several facts. 1st, that my patient did swallow, in the space of an hour or more, *numerous poisonous doses* of arsenious acid in powder; 2d, that I found her with most marked symptoms of arsenical poisoning; and, 3d, that by the administration of moderate doses of dialyzed iron, well diluted, I was enabled to give her immediate and certain relief, and ultimate and entire restoration to health. I do not propose in the limits of this paper to discuss the exact chemistry of the dialyzed iron. It is, I believe (when properly prepared, as I have since investigated carefully the process of its formation), a solution of peroxide of iron in the colloid form, with perhaps a trace of hydrochloric acid; but that it will, when very largely diluted with water, perfectly coagulate arsenious acid *in solution*, any one can satisfy himself in a five minutes' test. The only remaining point of interest professionally is, will it neutralize arsenious acid when taken *in powder* (*bulk*) into the stomach? It is held by most authorities, I believe, that when arsenious acid is taken in bulk into the stomach, the iron antidote is not reliable. (See Dunglison, R. J. (latest paper on the subject), in his "Practitioner's Reference Book," page 229.) Yet we know from daily experience that arsenious acid is absorbed by the stomach when taken in minute doses, and I think the evidence in this case shows that arsenic in powder did poison when presented to and acted upon by a comparatively empty stomach (at least three hours having elapsed since her breakfast), and that the solution of peroxide of iron (dialyzed iron) did prove a prompt and reliable antidote, coagulating and neutralizing the arsenic. Arsenious acid *acts as it is dissolved*, and the antidote (if supplied) combines, *pari passu*, with the solution formed by the liquids of the stomach, and renders it inert before damage is done to the mucous coat of the stomach or it is absorbed into the system. Within twenty seconds after I learned that arsenic had been swallowed I sent a full dose of the antidote after the poison, and with positive and immediate relief to the patient. My experience with dialyzed iron as a pleasant and efficient means of introducing iron into the economy is too limited for an opinion, but I feel disposed, from the history of this case, to strongly recommend it as a safe, reliable, and always-ready-at-

a-moment's-notice remedy and antidote for arsenical poisoning.

1427 WALNUT STREET.

PENNSYLVANIA SUPERSTITION.

BY S. C. DE VENY, M.D.

THE extracts from the thesis of Dr. Kludgian, published in your issue of October 27, have suggested putting on record some of the superstitions which prevail in the German counties of Central Pennsylvania. The natives of this section (Lancaster County) are given to superstition, and the majority of them keep in their possession books containing incantations and recipes that are believed to drive out devils and to cure all the "ills that flesh is heir to." So great a hold has "pow-wowing" taken that some of the people are unwilling to patronize physicians who are not ready to use these means to aid their drugs. There are several physicians (?) (who profess to be regulars) who have built immense reputations and fortunes by "pandering to the public taste." The following are fair samples of what a book contains that was "cabbaged" (it could not have been had otherwise) from a house in which I was attending a patient.

"For hydrophobia.—Inscribe upon a loaf of bread, on the upper crust, the following words, and give it to man or beast, as the case may require. Gerum Henium Lada Frium, hide thyself."

"For shooting pains.—Carry upon your body, Arill at Goll Gottza."

"For gonorrhœa.—Take the excrementis of a gander and tie it warm over the burnt organ."

Erysipelas is known in this region as "wild fire," for which to repeat the following is considered infallible: "The wild fire and the dragon flew over the wagon. The wild fire abated and the dragon skated."

"For epilepsy.—Take some part of the after-birth of a woman, also part of a bone from a human body, from a grave-yard; pulverize both, mix the mass well, and give to the patient three points of a knife full. If a person is attacked by this disease and falls upon the ground, you must let him lie and not touch him. † † †." When these crosses appear at the end of any cure, the name of the Trinity is to be repeated three times.

The following is said to be "first-chop,"

and quite a number are ready to vouch for its efficacy. "To transplant the rupture of a young man.—Cut three tufts of hair from the centre of his head; tie the same in a clean cloth, carry it into another county, and bury it under a young willow-tree so that it may grow up together. † † †. Proved."

"For worms in the body.—God went upon an acre field, a red acre land. He made three furrows and found three worms. The first was black, the other was white, the third was red: forthwith, N. N. (name of the victim), all thy worms be dead. † † †. Move three times around the navel while pronouncing the three holiest names."

The next remedy, I have been told, is a sure cure for colic.—"An old tuft head, an old body-coat, a glass of rue wine; womb cease thy griping pain. Three times. Excellent."

"For consumption.—When consumption has taken hold of a person, let him take a good quart of wine in the evening. The first urine such a sick person passes after drinking such wine, let run out, but the second and third time catch the urine in a glass vessel. Let this stand in a cellar, twenty-four hours, till it clears. Thereupon take a good portion of loaf-sugar, and melt the same in a copper pan. Of the urine, pour as much as is pure and clear into the melted sugar; let it boil up like a soup. Drink morning and evening a wine-glassful thereof. It will also cure the gravel of the bladder."

Besides charms for disease, there are many for the detection and punishment of thieves and murderers; and again others to prevent persons from shooting accurately with either gun or pistol; and quite a number to insure success in law-suits. A great many are so filthy in character as to be unfit for publication, and sacred names are handled so carelessly as to make the book sacrilegious.

The title of this magnificent work is "Albertus Magnus, or the Egyptian Secrets Revealed."

Frequently while attending women in labor I have noticed them blowing into their hands after the birth of the child, as if they were cold, and, upon inquiring why they did it, was informed that it loosened and helped away the after-birth. This has happened, too, in families that are supposed to be quite intelligent. Few of these things are done in the presence of

the practitioner, but the moment he gives his diagnosis and turns his back, "Albertus" is brought out from the old clock and consulted.

WILLIAMSTOWN, PA.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

SERVICE OF PROF. AGNEW.

Reported by H. R. WHARTON, M.D.

FOREIGN BODY IN THE BLADDER REMOVED BY MEDIAN OPERATION; RECOVERY.

JOHN HILL, æt. 17 years, residing in Cecil County, Maryland, was admitted to the University Hospital, June 11, 1877, with the following history:

Three weeks previous to his admission to the hospital, while suffering from an attack of pneumonia, it became necessary to use a catheter. The instrument used in this case was a silver-plated one consisting of two pieces, and in withdrawing it the lower piece, about six inches in length, became detached and slipped back into the bladder.

All attempts to remove the body proved unsuccessful.

The patient now experienced great pain in passing his water, so that a catheter was used continuously, and, as his condition was gradually growing worse, it was decided to bring him to the city for an operation.

Upon examination the patient was found emaciated, his temperature elevated, belly tympanitic and tender on pressure over the hypogastric region; he suffers great pain on the slightest motion, and is not able to pass his water.

June 12.—The patient's bowels having been previously opened by an enema, he was etherized, and on introducing a sound into the bladder the foreign body could be easily felt.

A staff was then introduced, and the bladder was entered by the median operation. Upon examining the bladder the foreign body was found fixed obliquely across the arch of the pubis, one end fixed behind the right pubic bone, the other imbedded in the posterior wall of the bladder.

All manipulation had, of necessity, to be very delicate, on account of the danger of perforating the walls of the bladder;

and, as it was found impossible to dislodge the body without using considerable force, it was divided in the wound by means of bone pliers, and the fragments brought out of the wound without difficulty.

The body, as before stated, proved to be the curved end of a metallic catheter about six inches in length.

The bladder was then washed out with tepid water, and as there was no hemorrhage the patient was put to bed and given an opiate as soon as he reacted from his ether.

June 13.—Patient in good condition; water escaping freely from wound; temperature somewhat elevated; given *mist. potassii citrat.* with a small amount of morphia.

June 25.—Has had no unfavorable symptoms; passes a small amount of water by the penis.

July 2.—Patient now passes all his water by the penis; wound closed.

July 26.—Discharged cured.

FOREIGN BODY IN THE TRACHEA; TRACHEOTOMY; RECOVERY.

George S., æt. 5 years, residing at New Holland, Pennsylvania, while playing with some grains of corn, accidentally threw one into his mouth, and was instantly seized with a severe paroxysm of coughing, and complained of great pain in his chest.

The child soon began to suffer from paroxysmal attacks of dyspnœa, and could not rest in the horizontal position. As his symptoms were rapidly becoming more alarming, his parents brought him to the hospital on the third day after the accident.

When admitted, the child was much exhausted from want of sleep, his breathing labored, and his face slightly congested. These symptoms were much aggravated during the paroxysmal attacks of dyspnœa.

Upon auscultation a body could be heard moving in the trachea, changing its position with inspiration and expiration; air was found entering both lungs.

April 5.—Chloroform was administered, and as soon as the child was unconscious Dr. Agnew proceeded to open the trachea above the isthmus of the thyroid gland; a bunch of thyroid veins were injured, and had to be ligated; at this juncture the child ceased breathing; the trachea was opened quickly, retractors introduced, and the child turned on his face and artificial respiration resorted to; at the first full ex-

piration the foreign body was thrown violently from the wound: it was found to be a large grain of gourd seed-corn.

As soon as respiration was again established through the mouth, as the wound was dry, it was closed by three silver-wire sutures.

The child was then put to bed in a room with an even temperature and a moist atmosphere, and was carefully watched.

April 6.—Child slept well; small amount of air and frothy mucus escaping from wound.

April 12.—Has been doing remarkably well; sutures have all cut out; some air and mucus still escape from the wound.

April 15.—Wound entirely closed; child in good condition.

April 20.—Discharged cured.

TRANSLATIONS.

PREPARATIONS OF IRON USED HYPODERMICALLY.—Some experiments have been made on this subject by Hugenin, of Zurich (*Giornale di Medicina Militare*, No. 6, Rome, 1877, p. 555; from *Correspondenz-Blatt*), with apparently very beneficial results. The patient, who suffered with pernicious anæmia, was unable to absorb the ferruginous preparations by the gastrointestinal tract. His condition was extremely grave, as shown by the skin of cadaveric paleness, the œdema of the extremities, and the cardiac phenomena; but after a few subcutaneous injections of small quantities of iron he began to improve, and continued to do so until he finally became fully convalescent. The preparation employed was pyrophosphate of iron in very small doses (about half a grain), which seem to be abundantly sufficient.

J. B. R.

OBSERVATIONS ON YELLOW FEVER.—An abstract of the paper of C. Brendel on the epidemic of this disease in Montevideo, during 1873, is given in *Berliner Klinische Wochenschrift*, No. 33, 1877, p. 481. There were 400 deaths in the population of 80,000, and hence the opportunity for study was abundant. He formulates the conclusions somewhat in this wise. 1. The disease is liable to occur if a susceptible (unprotected?) person place himself in an infected locality even for a very short time. 2. The admission of infected goods

into a place, susceptible on account of situation or by reason of the season of the year, can give rise to an outbreak of the disease without the agency of diseased persons. 3. Into non-susceptible localities, proved by experience to be such, though often in the vicinity of infected places, infected objects and persons may be brought without giving rise to new cases of disease. 4. The period of incubation is on an average about eight days. 5. The disease extends but a short distance inland. 6. Spontaneous cases have never been observed in Montevideo. 7. Yellow fever does not occur before the middle of January, and ends during June. It is, therefore, a disease of the autumn season, for the observations were made, it must be remembered, in the Southern hemisphere. J. B. R.

NYSTAGMUS AMONG MINERS.—M. Dransart has made a careful study of this disease among the miners of Anzin (*Le Progrès Médical*, No. 35, 1877, p. 670). The oscillation occurs in the vertical or in the horizontal meridian, or in both together, giving a circular or elliptical movement to the globe, according to the relative action of the displacing muscles. The nystagmus is particularly prominent when the line of vision is directed above a horizontal plane passing through the cornea, and is diminished when the patient looks below this plane towards the ground. The affection, accordingly, is found chiefly in those miners whose work compels them to look continually overhead. The author's observations lead him to believe that the condition is dependent on a paresis or insufficiency of the muscles which turn the eyeball upward, and of the internal rectus, to which are added accommodative troubles; and, at the same time, the patient always suffers from very marked anæmia. The treatment recommended consists of iron, quinine, strychnia, combined with electricity, and work outside the mines.

J. B. R.

NITRATE OF ALUMINIUM IN PRURITUS OF THE VULVA.—The atrocious suffering caused by vulvar pruritus is well known, and is sufficiently frequent to deserve attention. Generally a great number of remedies are used, and only temporary improvement obtained: hence an efficacious application will be a precious acquisition. According to *La Revista Médica de Chile*, Año V. p. 349 (from *Bull. Gén. de Thé.*), this has been found by Dr. Gill in

a solution of nitrate of aluminium, made with five to seven parts by weight of distilled water, used locally twice daily, and also as a vaginal injection. J. B. R.

THE CLIMATE OF ALGERIA.—At a recent meeting of the French Association for the Advancement of Sciences (*Le Progrès Médical*, No. 35, 1877, p. 675), M. Landowski stated that the Algerine climate presented the conditions most favorable for a winter resort for consumptives. There are, so to speak, four climates: that of the coast, influenced of course by the sea; that of the plateaux, where the marine influence is secondary; the climate of the steppes, where the predominant feature is that of a continental atmosphere; and, lastly, the peculiar climatic influence of the great desert of Sahara. It is the coast climate which is specially studied by M. Landowski in its therapeutic aspects; and this has two distinct seasons, viz., the hot and the temperate. The mean temperature for November is 62.6° F.; for December, January, and February, 55.4° F.; for March, a degree or two higher than in the preceding months; and for April, 62.6° F. The minimum of the whole temperate season is 60.8° F.; the maximum, 69.8° F. In the warm season the maximum is 86° F., and the minimum 43° F. J. B. R.

TRANSITORY ALBUMINURIA IN DELIRIUM TREMENS.—This phenomenon occurred in 51 out of 156 cases of delirium tremens observed by Weinberg (*Giornale di Medicina Militare*, No. 6, Rome, 1877, p. 546; from *Deutsche Med. Wochenschrift*). The duration of the albuminuria coincided with that of the delirium; and as in no case were found any of the pathological elements pointing to disease of the kidneys, there remains no explanation but that the symptom is due to alteration of innervation. The treatment adopted was essentially symptomatic, consisting of corroborant diet, perhaps a little alcohol and chloral.

J. B. R.

XANTHIUM SPINOSUM IN THE TREATMENT OF HYDROPHOBIA.—Dr. Grzygmala has made some experiments with the leaves of the xanthium spinosum as a remedy against the disease mentioned (*Revista Médica de Chile*, Santiago, núm. 10, 1877, p. 395; from *Köln. Zeitung*). He does not pretend to cure the disease when developed, but asserts that he can prevent its occurrence by prophylactic treatment, consisting in giving the patient

who has been bitten about ten grains of the powdered leaves three times a day during a period of three weeks. He has treated animals that have been bitten in the same manner, but with larger doses. Several animals were bitten by a mad dog, of which some were treated by xanthium leaves and others were allowed to remain without any medication. Those not treated succumbed to hydrophobia; the others remained well. Again, twelve persons were bitten by a rabid dog, of whom six were treated by different remedies at home, and all became mad; while the remaining six who took xanthium remained well. He gives the account of a number of cases among dogs and cattle where the bitten animals when treated with xanthium remained in good health, but when left without treatment became rabid. It is asserted that Grzygmala has not found this remedy to fail, though using it for ten years.

J. B. R.

THE ANTI-FERMENTATIVE QUALITIES OF BORACIC ACID, AND ITS EMPLOYMENT IN THERAPEUTICS.—G. Polli (*Centralbl. f. Chir.*, 1877, p. 534), in a lecture before an Italian society, alluded to researches on the anti-fermentative action of boracic acid. He mixed beer, milk, urine, eggs, blood, and meat with boracic acid and borax, which kept them fresh for thirty days in summer, while the substances used for comparison, occasionally without addition, in other cases mixed with sulphite of sodium, went on to putrefaction within fifteen days. This energetic disinfecting action, and the ease with which boracic acid and borax are tolerated by the human organism, cause Polli to recommend their use in diseases beyond question infectious or where sepsis easily takes place. He adduces several instances where, in tubercular cases, the fever was diminished. In malaria an observer cited by Polli saw no good effects. Another saw benefit from the use of these remedies in certain instances. In chronic cystitis the muco-purulent deposit in the urine disappeared in a few days. Foul wounds became greatly improved by external applications. Dose, 5 grm. (75 gr.) boracic acid, 10 grm. (150 gr.) borax daily. x.

ARSENIC IN ENLARGEMENT OF THE LYMPHATIC GLANDS.—Winiwarter (*Cbl. f. Med.*, 1877, p. 597; from *Wien. Med. Jahrb.*) gives the results of further experiments (see *Cbl.*, 1875, p. 411) in the em-

ployment of arsenic in these enlargements. The arsenic was given internally, and at the same time in the form of parenchymatous injections into the glands. Fowler's solution was ordered in combination with tincture of iron, and in increasing doses (from twice daily five drops, to twice daily thirty drops). A hypodermic syringe-full of solution may be used for a single injection, employing two or three daily in one part of the tumor or in different tumors. Winiwarter's results are as follows. 1. Treatment by arsenious acid is effectual both in malignant lymphoma and in leukæmia, inducing resorption of the hyperplastic glandular tissue. 2. The favorable influence of the acid is due to its peculiar faculty for disintegrating albuminous tissues and thus promoting absorption. 3. In addition, the local effect of the injection and also the arsenical fever exercise a certain influence in reducing the size of the tumors. 4. Cure may require a year; and relapses are also amenable to this treatment. 5. The arsenical treatment may be advantageously combined with operation in malignant lymphoma. x.

FREQUENCY OF DIAPHRAGMATIC PLEURISY IN ACUTE PERITONITIS.—Laroyenne's autopsies (*Berlin. Klin. Wochens.*, 1877, p. 425; from *Lyon Méd.*, January 7) show inflammation of the diaphragmatic pleura to be a not infrequent complication of general acute peritonitis. The pleura shows every sign of acute inflammation, vascularization, false membrane, etc. According to L., purulent cords can be traced directly from the peritoneum to the pleura through the diaphragm. These observations are supported by well-known researches into the course of the lymphatic canals of both cavities. x.

ACUTE AORTITIS.—At a recent meeting of the Société Méd. des Hôpitaux, Dujardin-Beaumetz (*Centralbl. f. Med.*, 1877, c. 429; from *La France Méd.*) showed a preparation of acute aortitis from a man 39 years of age, who had suffered while alive with pain in the region of the aorta and attacks of angina pectoris. Neither cardiac nor aortic murmur could be heard. The urine was scanty, the lower extremities œdematous. At the autopsy, there was found hypertrophy of the heart with fatty degeneration and acute inflammation of the aorta. The intima of the latter was red, roughened, and at many points ulcerated. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, DECEMBER 8, 1877.

EDITORIAL.

HOSPITAL STEWARDS.

IF our information be correct, most if not all of the European armies have a commissioned officer, known as apothecary, who ranks usually as a second lieutenant. In our army this position of apothecary, as well as that of surgeon's assistant and clerk, is filled by a hospital steward, who appears to be a sort of higher "man of all work" in the running of a military hospital, but who, strangely enough, is outranked by all the regimental non-commissioned officers, although he holds his appointment from the President, and not, as they do, from the colonel of the regiment. The pay of the hospital steward is also only thirty dollars a month, and when he is disabled or killed in the service no pension is awarded.

The low position thus assigned to this official contrasts strangely with the amount of education required of him, and is certainly not what is deserved. It has of necessity caused much dissatisfaction, which has from time to time made itself heard in Congress, and last year a bill was introduced by Mr. Charles Foster to improve the rank and pay of these useful and indispensable adjutants to the medical service.

The bill failed to become a law, and a new one has been or is about to be brought forward. The enactment proposed by Mr. Foster increased both rank and pay; but the one now under discussion leaves the rank where it is, although it materially increases the compensation and in many respects makes the position of hospital steward a more advantageous one. We have not room for discussion in details, but we sincerely hope that a law may be enacted by the present Congress which shall assign a

rank at least equal to that of the highest non-commissioned officer, a pay of fifty dollars a month, a pension for disability produced in the service, and finally open a possible passage, on proof of fitness by examination, up to the medical staff.

The hospital steward has much of the governmental interests in his keeping, and assuredly nothing breeds carelessness and unfaithfulness more certainly than does well-founded discontent.

LEADING ARTICLES.

VARIATIONS IN WEIGHT OF NEW-BORN INFANTS AND NURSRLINGS.

A DISTINGUISHED physiologist is understood to have asserted recently that "the breeders of cattle possess more positive data for the alimentation of animals, than physicians for the nourishment of men."

It is certain that there is much room for investigation in all that pertains to dietetics, more especially the nutrition of infants, and that such investigation should be as thorough and scientific in character as possible. As indicating one direction in which progress has been made towards a rational system of infant feeding, we may mention those careful examinations of the variations in weight of infants under different circumstances, which have been made by various observers. One of these, Fleischmann, of Vienna, has collected and arranged the results of his own investigations and those of others in the form of a clinical lecture, recently published in the well-known *Wiener Klinik* series. It is proposed in the present article to give a few of the results of these observations, which, it may be stated, are supported by ample experimental proof.

The average weight of new-born infants may be taken at 3250 grm., the average weight of males being 3200 to 3380 grm., that of females at 2910 to 3280 grm. Infants born of multiparæ have a greater initial weight than those of primiparæ, the average excess being about 158 grm. The influence of the mother's age on the increase of weight in the infant is, though less striking, still decided up to the fortieth year. After that the average weight of the children born decreases.

Burdach and Chaussier made the interesting observation, which has been confirmed by other investigators, that before the regular growth of children begins, they experience a decrease from the birth-weight. This diminution in weight begins at the moment of birth, and continues from three to four days, though it may be modified by various circumstances. At the end of this time the infant immediately begins to gain. There is no interval of stationary weight. The average loss of weight during the first four days of post-natal existence is 222 grm., equal to about one-fifteenth of the entire weight of a child at full term.

There are several circumstances in connection with this loss of weight immediately after birth, some of which have not as yet been explained. For instance, it is known that the infants of primiparæ recover weight rather more slowly than those of multiparæ. At first sight this might seem explicable from the fact that the nourishment afforded by primiparæ is at first more scanty. Ingerslev, however, allowed sixteen infants of primiparæ to nurse from birth with women who had borne children four or five days previously. The result was somewhat surprising. It was found that not only did these infants lose more weight, but that they also recovered more slowly, than those nursing at their own mothers' breast. This greater loss of weight in the infants of primiparæ must then be admitted as a physiological fact for which we have as yet no explanation. It may be connected with the as yet imperfectly developed assimilative powers of the newly-born infant. It has been suggested that the formation of the "navel scar" has something to do with the loss and gain of weight; but observation has shown that the connection between the two is merely accidental. The loss of weight by the excretions, stools, urine, etc., accounts for part of the loss mentioned, but not by any means for all.

To recapitulate: every child loses weight during the first days of post-natal existence (exceptional instances of increase probably depend on the loss of meconium during birth, and are transitory). This loss amounts, on an average, to about one-fifteenth the weight of the infant, and is more marked in the children of primiparæ and in boys; the latter, however, gaining weight more rapidly than girls. The less mature the infant is at birth, the greater its loss of

weight, and the more slowly made up. Increase in weight begins on the third to fourth day, and is independent of the formation of the "navel scar." The loss of meconium and by the excretions accounts for only a small portion of the post-natal loss, which is to be regarded as a physiological fact. Authorities differ with respect to the period required to regain the normal weight. In general, however, it may be asserted that the development of an infant may be regarded as favorable if by the end of the second or third day it has not lost more than 222 grm., and if by the end of the eighth or ninth day it has again recovered its original (birth-) weight.

The daily increase of weight in the infant is a matter of interest, but a matter which was formerly examined into without sufficient care. It was thought sufficient if the infant was weighed at intervals of several months and the increase was divided equally among the intervening periods. It is evident, however, that a careful daily estimate of weight will often afford a valuable aid towards ascertaining the effect of various sorts of food, etc., upon the economy, and thus give data for the foundation of an intelligent scheme of alimentation. Fleischmann quotes Bouchaud's figures, which show an average daily increase in weight during the first month of 25 grm. in an infant weighing 4000 grm. at the end of that time. The increase becomes less considerable every month, until by the twelfth month the daily increase has fallen to 6 grm., the infant's weight at the end of that time having reached 8950 grm. These figures are derived from hospital experience. In private practice the infant's growth is more rapid.

One of the most practical results of these investigations is in determining the sort of food most conducive to the growth and welfare of the infant. It is found that sudden deprivation of mother's milk causes an immediate decrease in weight, lasting three to five days, even when the digestive powers of the infant appear to remain unimpaired. Gradually this loss of weight becomes less and less, and finally gives way to increase of weight. The change for the better takes place more quickly when cow's milk is used. Where condensed milk is given, the loss of weight is greater and is more slowly made up. On this subject Fleischmann remarks that he has never seen such poorly-nourished infants as those fed

on condensed milk. He thinks this, in part, due to inappropriate dilution. Mucilaginous and meat broths are not much better. Liebig's food for infants, and that modification of it known as "Lœflund's extract," show results occasionally as fortunate as those obtained by cow's milk. Nestle's "food" is also a very satisfactory preparation. After the first month it may be given once or twice daily, mixed with pure cow's milk. Occasionally children refuse Nestle's food when mixed with milk, but take it when mingled with water. In Fleischmann's experience the best results in artificial feeding were obtained from a mixture of cow's milk with veal-tea in increasing proportion, 1 : 2, 1 : 1, 2 : 1, given to weak infants every second hour; to stronger children only a few times in the course of the day. The phosphatic constituents of the veal favor the formation of bones and teeth. While sudden weaning exercises an unfavorable influence upon the weight of an infant, this is much less the case where it nurses occasionally at the mother's breast between the meals of artificial food. A larger number of meals given after weaning act favorably on the increase in weight. Not only fevers and intestinal disorders tend to decrease the weight of the infant, but also colds, vaccination, etc.

X.

CORRESPONDENCE.

NEW YORK, November 24, 1877.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES:

DEAR SIR,—An unusually interesting meeting of the Academy of Medicine was held November 1, when Prof. Austin Flint, Jr., gave a very graphic account of some experiments *on respiration*, which he has recently been making, and which have caused him to modify the views which he has hitherto held and promulgated in regard to the source of the stimulus which gives rise to the act of respiration. Hitherto he has always taught that the *respiratory sense* was due to a want of oxygen in the general system, producing a sense of want of air, which was conveyed to the medulla oblongata, the centre of respiration, and that the respiratory movements were essentially reflex. Experiments which he personally made in the year 1861 seemed to prove these points to his entire satisfaction. At the present day, Dr. Flint said, nearly all writers agree that the condition of the blood demanding respiration for its vivification is due rather to the want of oxygen than to the presence of carbonic acid; and

some of them (among whom he mentioned Hermann and Foster) hold the opinion that the sense of want of air is primarily due to the want of oxygenated blood in the medulla oblongata, and that the lungs and general system have nothing to do with it. So far as he is aware, this view is purely theoretical, up to the present time, never having been substantiated by actual experiment; but the series of experiments which he has just been making would seem fully to sustain it. I shall not attempt to give any accurate details of these, but may perhaps succeed in giving a general idea of their character. They were twelve in number, all upon dogs, and the first was made early in September, 1877. A good-sized dog was etherized, and, the trachea having been opened, the nozzle of a pair of bellows was inserted for the purpose of keeping up artificial respiration. The nozzle was also covered with a sponge saturated with ether, in order to maintain complete anæsthesia. The chest and abdomen were then opened, and, the ribs having been bent backward and the pericardium cut away, the lungs and heart were left fully exposed. It was noticed that there were absolutely no respiratory efforts (the diaphragm remaining perfectly placid) as long as air was supplied to the lungs by the bellows, but in forty-five seconds after artificial respiration was arrested the most violent efforts were made. These were seen first about the corners of the mouth, then the jaws opened widely, and finally the diaphragm began to act. Artificial respiration was now again resumed, and all respiratory efforts ceased; but when the blood-supply of the head was cut off by the ligation of the innominate and left subclavian arteries, violent efforts were made within two minutes, notwithstanding the fact that the lungs were kept fully distended with air by means of the bellows. The vessels springing from the arch of the aorta were then left free, and the descending aorta and ascending vena cava were ligated, when it was found that there were absolutely no respiratory efforts.

The second experiment was nearly identical in character and in its results; and the two experiments showed that the ligation of the aorta had no appreciable effect, but that the ligation of the vessels coming from its arch gives rise to a sense of want of air. It is not enough to tie the innominate, but it is necessary that the left subclavian should also be ligated, because it gives off the vertebral, which goes to form the basilar artery, carrying its blood-supply to the medulla oblongata.

In the third and fourth experiments both the subclavian and both carotid arteries were constricted, and in a short time violent respiratory efforts were noticed. Next, both the carotids and both the vertebrals were constricted, when it was found that there was absence of respiratory efforts for a longer period and that the efforts were of a less violent character

than when the subclavians were constricted also. This led Dr. Flint to suspect that the medulla oblongata was supplied with blood by some anastomosis; but a careful dissection of the subclavian and its branches failed to detect any, so that he is at present somewhat at a loss how to account for the phenomenon observed.

In the sixth and seventh experiments the head of the animal was entirely severed from the body, with the exception of the carotids and jugulars, and feeble movements of respiration were noted, but the shock and hemorrhage were so great as to render the experiments failures. In the eighth and ninth the head was cut off at one blow with a butcher's cleaver. Respiratory efforts were made in each instance for some little time. In the first, the last effort was noticed in sixty-eight seconds, and in the second, at the end of fifty-five seconds. The same thing has often been noticed in decapitated fowls; and these efforts would seem to be due to the want of oxygenated blood in the medulla oblongata. In the last two experiments a canula was inserted into one carotid artery, and, the head being then cut off, oxygenated blood was injected into it, when it was found that the respiratory efforts were much stronger and continued for a longer period than when no injection was thus made. In experiment No. 11 the last effort was noticed in ninety seconds after decapitation, and in No. 12 in ninety-seven seconds.

Although this series of experiments is still incomplete (the last one having been made less than a week before the reading of the paper), Dr. Flint has been led to conclude that the sense of want of air is due to a want of oxygenated blood circulating in the medulla oblongata, which has been pretty conclusively determined to be the sole centre of respiration. They have also caused him to doubt whether the ordinary respiratory movements are reflex in character, as now generally held, and to consider them due rather to a direct stimulus upon the nerve-cells in the respiratory centre. (The first three of the above experiments are given in detail by Prof. Flint in the *New York Medical Journal* for November.)

Prof. Dalton remarked that the experiments were exceedingly striking and suggestive, and especially valuable on account of the accurate precision with which they were made and reported. It was a great gain to know that when the supply of blood is cut off from the head, respiratory efforts are excited, and that when it is cut off from the rest of the body, they are not; but, while it seemed probable that Dr. Flint was right in his deductions, he would like to have a little more information on some points before giving entire assent to his views. We should not forget that in these experiments the circulation was interfered with in other parts as well as the medulla oblongata, and he thought it possible that the ligation itself of so many large vessels

had some effect in producing, in an indirect way, the results noted. He was not yet willing to give up the idea that the movements of respiration were to a great extent reflex, and he was of the opinion that the presence of carbonic acid had some effect in exciting the respiratory sense. In his own person he had proved that the extreme sense of suffocation produced by inhaling carbonic acid gas was very different from the much less urgent feeling which the inhalation of a negative gas, like nitrogen, gave rise to; and he could not doubt that by means of its stimulating effect upon the pulmonary mucous membrane it was instrumental, to some extent at least, in originating respiratory movements.

Prof. E. R. Peaslee was of the opinion that Dr. Flint would in time be able fully to substantiate his position; but at the same time, while he was willing to concede that *ordinarily* respiration depended on direct stimulus to the respiratory centre, he thought it could also be excited reflexly whenever, for any reason, the brain refused to respond to the appeal made to it. The function of respiration was such a vital one that nature had provided a vast number of esoteric nerves, running to all parts of the body, through which respiratory efforts might be induced when the ordinary stimulus to the medulla oblongata was insufficient.

At the conclusion of the discussion on Dr. Flint's paper, Dr. Henry G. Piffard made some remarks on "*The Use of Certain Triturations*," the aim of which was to show that some of the decimal and centesimal triturations of medicines (made with wine and ninety-nine parts of sugar of milk respectively) which are used by the homœopaths really constitute an excellent method of giving some remedies, and that there was no reason why they should not be adopted by the regular profession. The experiments which he has made have been principally with preparations of mercury and arsenic, and he has been very much pleased with the results obtained. It has been proved beyond doubt, said he, that solids are absorbed, and it is reasonable to suppose (as has been substantiated by experiment) that the more finely subdivided a substance is the more readily will it be absorbed.

Dr. Piffard exhibited five specimens of *Hydrargyrum cum creta*, obtained from different first-class druggists in this city, and no two of them were alike in appearance, either to the naked eye or under the microscope, while the *mercurius vivus* (the decimal trituration of mercury) employed by the homœopaths was uniformly the same. Some of the preparations of mercury, like the bichloride and biniodide, act as irritants to the gastric mucous membrane, and often have to be given up on that account; but he has found that when given in a minutely divided form they are so rapidly absorbed that there is little time allowed for producing this effect. The chief advantages of giving appropriate medicines

in the form of triturations seemed to be their greater palatability, the smaller dose required, and their more ready absorption; and he would recommend the more poisonous agents, such as aconitia, strychnia, arsenic, and atropia, to be given in the centesimal trituration.

Dr. John C. Peters has just presented to the Academy his entire library on the subject of Cholera, which is very large and altogether unique, in this country at least, containing, as it does, in addition to medical works on the disease, a considerable number of volumes of travels which have a bearing on its habitat, or describe the peculiar manners and customs of the natives of the countries it is apt to infest.

At the meeting of the Medical Journal Association, November 2, Dr. V. P. Gibney read a carefully-considered paper on "*The Medical Profession as related to the Medical Charity Abuse*," in which he suggested a number of plans for the abatement of the latter; but most of them presented no features of novelty, and those that did so seemed rather impracticable. At the meeting of November 16, Dr. James R. Leaming read a paper on "*The Physical Signs of Interpleural Pathology*," which has attracted a good deal of attention. He stated that in 1870 he had read a paper on "*Pleuritis*" before the Academy of Medicine, in which he presented his present views on the subject in a crude and imperfect manner, and that in the discussion which followed it, Prof. Flint gave it as his opinion that there were no certain signs by which we might recognize adhesions and thickening of the pleuræ and that were pathognomonic of these conditions. To this opinion all the prominent teachers in this department of medicine, except Walsh, subscribed, and he himself had concurred in it until about two years ago, when he was led to change his views by a case which occurred at St. Luke's Hospital. It was one in which circumscribed pleuritis with adhesions was diagnosed on the left side, with phthisis following the absorption of pus in the right lung; but the autopsy revealed that the structure of the latter was entirely healthy, though the pleura was everywhere thickened and adherent. From this case he was led to believe that inflammation of the pleuræ and its results gave rise to all the signs which have been hitherto regarded as characteristic of pathological conditions of the lungs themselves, and his subsequent experience has confirmed this opinion. He then related three cases in proof of it. In the first, the so-called mucous râles were heard during life, but the autopsy showed that the lung was completely consolidated, and that these had been produced by moist adhesions of the pleura. In the second, subcrepitant râles were heard after perfect consolidation of the lung had taken place, as revealed by the autopsy; and in the third case subcrepitant râles remained after a pneumonia which had been present had entirely

cleared up. Dr. Leaming said that these were typical cases, and not rare, and regarded them as positive proof of the correctness of his peculiar views: so that there was a radical defect in the teaching handed down from teacher to pupil since the days of Laennec. He then went on to relate a large number of other cases, in order to illustrate different points. In one there was great dyspnœa, as well as displacement of the heart, with the production of an intra-ventricular murmur, produced by plastic exudations. In another this exudation was detected the moment it occurred, for râles were heard at the apex of the lung in the evening which were not present in the morning. Death took place suddenly from aortic aneurism, and this was verified by the autopsy. In another, soft, tearing râles, due to the same cause, were heard at the apex, the patient having been induced to seek medical advice early on account of a severe hemorrhage; and a complete cure was obtained by hygienic means. The patient, a young man, was advised to set out on a pedestrian expedition, and after walking the most of the way to Richmond and back there was not a trace of the plastic exudation left. Hæmoptysis was very apt to occur, either immediately or in three or four weeks; and he regarded the vast majority of cases of hemorrhage from the lung as due to plastic exudation. The nutrient arteries, which have no returning veins, become greatly engorged and cause undue pressure upon the bronchial vessels: so that the hæmoptysis thus acts as a safety-valve. In another case, in which death took place from hemorrhage resulting from the rupture of a large vessel into a caseous cavity, phthisis had not been suspected until after death, its physical signs being completely hidden by the enormous thickening of the pleura. In another, that of the late Commodore Vanderbilt, attacks of great dyspnœa were caused by pleuritic adhesions to the pericardium; and in connection with it he remarked that the so-called "cog-wheel" rhonchus and respiration were due to such adhesions. In conclusion, he spoke of the great importance of making an early diagnosis in cases of pleural exudation, in order that it may be completely removed and the danger of future phthisis thus avoided. He had obeyed the Baconian maxim of considering a matter seven years before committing one's self fully upon it, and he had now returned to the subject encompassed by a cloud of witnesses.

At the November meeting of the New York Public Health Association, Dr. Allan McLane Hamilton read a paper on "*Metallic Poisoning from a Sanitary Stand-Point*," in which he maintained that in general the danger of contamination of the system by lead was greatly exaggerated. In the course of his investigations he had examined 1500 printers, and was not able to find any evil results arising from

the constant contact with lead, except in the case of two men who were in the habit of putting type in their mouths. There was ordinarily little danger from drinking water that had run through lead pipe, and most of the trouble in this connection that has been noticed in New York has arisen from the fact that water has been allowed to stand in lead-lined tanks at the tops of houses. Richardson's experiments had proven conclusively that the poisonous salts of lead were not volatile; and hence the supposed injuriousness of sleeping in newly-painted rooms was attributable either to the imagination or could be traced to some other cause than lead-poisoning. During a long series of years the number of deaths traceable to lead in this city has been only 228. The danger from the use of popular hair-dyes, however, was well founded, and the evil results arising from them had been proven beyond any doubt. He thought that the danger from arsenical poisoning, as, for instance, by means of wall-papers, had been also greatly over-rated; though he had known local trouble to arise from the wearing of cheap colored stockings in which arsenic entered into the dye used; and he thought that the sale of such active poisons as Paris green should be much more restricted than it is at present. Dr. Hamilton was inclined to think that there was much greater danger to the public of being poisoned by copper than by either lead or arsenic, and recited instances of copper-poisoning by soda-water pipes, and by the use of cheap spoons and forks, where the plating had worn off and left the copper beneath exposed; as well as directly by copper cooking-utensils, and the coloring-matter of various pickles and canned vegetables.

Dr. T. G. Thomas delivered the anniversary address at the annual meeting of the Academy of Medicine, his subject being "The Influences which are elevating Medicine to the Position of a Science."

P. BRYNBERG PORTER.

CHAMBERSBURG, PA., Nov. 5, 1877.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES.

DEAR SIR,—Your article in No. 259, vol. viii., of the *Philadelphia Medical Times*, on the rational treatment of dysentery, has greatly interested me. And whilst I fully endorse your first proposition as to the possible inception of the two forms of the disease, acting on the principle of "proving all things and holding fast to that which is good," I cannot abandon two methods of treatment of said disease, which I will mention, for the very rational one suggested by you, without establishing beyond a doubt its great superiority over either; for the one great reason that in private practice yours is not so easy of administration. Seventeen years ago, some one recommended, in one of the medical journals,

the use of a cathartic that would act on the entire length of the alimentary canal,—one that would stimulate the liver, so as to secure the effect of the newly-secreted bile on the inflamed mucous membrane, and also by its action on the lower portions of the tract remove any matters that might be morbid agents. This was to be followed by an often-repeated appropriate dose of laudanum. For an adult he prescribed hydrarg. chlor. mite, gr. viij, pulv. aloes, gr. x, pulv. rhei, gr. xii, to be taken at one dose, and, after two free evacuations, tinct. opii gtt. x to be given every hour until all disposition to go to stool shall cease. At the time of reading the article I had a case on hand, Samuel M., aged about 80 years, who for about a week had been passing frequent bloody mucous stools, with very great tenesmus. It required some little deliberation in my mind before I could bring myself to venture upon what I then considered heroic treatment in the case of one so old as my patient. But, being fully persuaded that the disease would gain the mastery, I concluded to take the chances, or, rather, let the patient take the chances. He informed me that he knew his case was a very serious one, for his former physician had told him that for years he had been suffering from a "diarionic" diarrhoea, and I could not persuade him that the doctor had said "chronic" instead of "diarionic." I succeeded, however, in establishing his full confidence in the remedy that I was about to administer; and its action could not have been more satisfactory. Instead of the blood and mucus, two very large discharges of fecal matter were produced, and not more than two or three ten-drop doses of laudanum were required to complete the cure. In a few days from this time I was called to see Samuel G., aged about 55, a man of very restless disposition, who could not be kept in the recumbent position. His discharges were similar to those in the above case, and were accompanied with very severe tenesmus. The above-mentioned combination was administered, followed by two or three doses of the tinct. opii, and on the following day when I inquired of him as to his condition his reply was, "I am all right; it stinks again." Dysenteric stools ceased as in the other case, and he had a rapid recovery. For a number of years I pursued the above treatment, modifying it according to age and circumstances, with very gratifying results; but, as you suggest, "our experience with other portions of the body would teach us that different forms and stages of dysentery require variety in the character and strength of application:" so I was induced to try another remedy, proposed by some one, I think, in the columns of the *Philadelphia Medical Times*. This prescription was, for an adult, one-quarter of a grain of muriate of morphia combined with four or five grains of common table salt, to be repeated every three hours until the dysenteric symptoms have dis-

appeared. This mixture, modified to suit the age of the patient, has been prescribed by me in a very large number of cases with uniformly good results. Its happy effect has, if any difference can be noticed, been found in those cases of dysentery that are so apt to follow the diarrhoea of infants; the one-twentieth of a grain of morphia with two grains of chloride of sodium every three hours will afford the most pleasing results.

We country doctors have access to a natural diet-drink, if I may strain a point in the application of a word, in the substance known as "buttermilk," which appears to have almost a specific action in all bowel troubles, and where patients can be induced to use it freely, to the exclusion of all solid food, the action of medicinal agents is very much favored.

Pardon me if my suggestions appear in the least to militate against the treatment proposed in your article and which you desire to have further investigated. On the other hand, I am ready to give it my full endorsement, and feel satisfied that where complete control of the patient can be had, as in a hospital, it is pregnant with much good. But that my medical brethren, especially that class who have attained to that higher degree of intelligence that prompts them to subscribe for the *Philadelphia Medical Times* and kindred works relating to the science of medicine, may be induced to test the remedies that have displayed such marvellous powers in my hands, I respectfully submit the above. Experience is often our best teacher, even when it runs counter to chemical laws and physiological teachings. J. S. SUESSEROT, M.D.

REVIEWS AND BOOK NOTICES.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by DR. H. VON ZIEMSSSEN. Vol. XVI. DISEASES OF THE LOCOMOTIVE APPARATUS, AND GENERAL ANOMALIES OF NUTRITION. By H. SENATOR, PROF. E. SEITZ, PROF. H. IMMERMANN, and DR. BIRCH-HIRSCHFELD.

As this great work gradually approaches completion it impresses one more and more by its thoroughness and detail, and especially by the wide eclecticism manifested by the various writers in culling material from all sources, native and foreign, as well as the careful criticism which rids the subject-matter in many places of much rubbish embalmed in successive text-books for generations. Complaint has sometimes been made of the meagre therapeutics of Ziemssen's "Cyclopædia;" but in a work of such scope and permanent importance this seems a venial defect. Like the skilful portrait-painter, who clothes his subject in nebulous drapery that the eye of succeeding ages may not be distracted

from the features by some eccentricity of antique fashion, the writers of this work seem to have subordinated the "practical" to the scientific, therapeutics to the delineation of disease, doubtless to the occasional disappointment of the diligent gleaner of new recipes. A score of years hence, the therapeutics of to-day will be obsolete; while accurate description of disease will never be out of date.

The present volume is opened by an account of rheumatism in its various forms, gout, arthritis deformans, rickets, and malacosteon, by Senator. Seitz contributes an unsatisfactory article on slight disorders caused by catching cold; Immermann, an account of general disorders of nutrition, including anæmia, chlorosis, and progressive pernicious anæmia, also an article on corpulence. Birch-Hirschfeld's article on scrofulosis and affections of the lymphatic glands in general possesses great interest. Under this general heading is included an account of malignant lymphoma, lympho-sarcoma. The volume closes with two articles by Senator on diabetes mellitus and diabetes insipidus. The translators of this volume—Drs. E. Buchanan Baxter, Godfrey Aigner, Frank P. Foster, and Henry P. Bowditch—have done their work well, and the editor of the American edition, Dr. Albert H. Buck, has performed his toilsome labor with characteristic conscientiousness. x.

THE MORPHOLOGY OF THE SKULL. By W. K. PARKER, F.R.S., Hunterian Professor at the Royal College of Surgeons, and G. T. BETTANY, M.A., B.Sc., etc. London, Macmillan & Co., 1877. Pp. 368.

This volume is an abridgment of a number of memoirs on the development of the skull, both human and comparative. The latter feature very largely predominates, since out of eight chapters a portion of one only is given to the human variety. To those who desire to have a knowledge of the wonderful complexity of the skull this book is a veritable *vade-mecum*. It is expressly designed for students, is abundantly and well illustrated, and is furnished with a copious index. The principal author, Prof. W. K. Parker, is the first living writer on this subject. He has devoted many years to its perfection, and the scientific reader must acknowledge an indebtedness to this distinguished physician and savant in preparing this epitome of his larger memoirs.

THE EAR. By CHARLES H. BURNETT, A.M., M.D. Philadelphia, H. C. Lea, 1877.

This is a treatise for medical students and practitioners, covering a field that has only lately been deeply and properly cultivated. Its aim is to be comprehensive as to its subject, and so thorough and accurate in the diagnosis and treatment as adequately to meet the wants of the specialist as well as of the general practitioner. It is one of the

most complete works on the ear that has come under our notice; and the division and subdivision of its contents into different parts representing those of the ear is well adapted to present explicitness in demonstrating the anatomy, physiology, and pathology of the separate parts of this organ.

Part I., representing the anatomical and physiological branches, is subdivided into sections, corresponding to the external, the middle, and the internal parts of the ear, and occupies 162 pages. In this space not only is the anatomy well presented, but the physiological functions are clearly and concisely explained. The work is remarkably rich and most valuable in this respect, not only giving the author's own researches and discoveries, but good judgment has been shown in the compilation of all the latest researches of the well-known authorities in America and Europe. We have for some time been having contributions in this department of the ear in the various medical journals of the world from many well-known investigators, but this is the first time that a digest of their work has been made in this country and presented to the general profession who have not been able to follow and keep up with the literature upon the subject. This having been written more especially for the general practitioner, the mathematical parts in the physiology have been left out; although some of the more interesting, easily-explained, and practical formulæ in physiological ototrics might have been introduced with propriety as a basis for those who may desire to go further into the study of this branch. However, as it is, this is one of the most attractive parts of the book, although *Part II.*, occupying the rest of the book of 444 pages, on the diseases and their treatment, is so rich in its facts and resources as well as practical in its diagnosis and treatment that it is indispensable to the general profession.

A few colored lithographic plates of the tympanic membrane in normal and morbid conditions, after Politzer, for the assistance of those who have not the advantage of the clinics in the large cities, would have been an addition to the numerous illustrations. An elaborate review of this work would be impossible in the short space allotted therefor, as the whole treatise is so well written, and contains so much that is new and interesting, that extracts could not be made in length enough to do credit to the author. In short, every subject in relation to the ear is practically detailed in its anatomy, physiology, pathology, and treatment; and the whole is a great acquisition to the catalogue of text-books for our profession. And, as a good book is always welcome, it is hardly possible that this, one before us can fail to become popular among the students and profession for whom it is intended.

K.

LECTURES ON FEVER. By ALFRED A. LOOMIS. Wm. Wood & Co., New York, 1877.

This is a book of about four hundred pages of large print, which is stated in the preface to be a report of Prof. Loomis's lectures at the University of the City of New York.

Viewed from its own stand-point, the work is a good one: in a few words it may be characterized as a well-written series of lectures, containing very little that is novel, but representing very judiciously the practice of the day, and excellently well adapted to the use of students and not well-read practitioners of medicine. Higher than this the efforts of the writer do not seem to aspire; and the practitioner who is seeking a detailed chart, by which he shall guide himself amidst the individual vagaries of febrile diseases, will be disappointed if he expects the book before us to serve his purposes. There are some statements in regard to the treatment of disease which are important as the expression of the author's personal experience. We are glad to see that he appreciates the value of antipyretic treatment by cold baths, packings, etc., in typhoid fever, and, on account of this appreciation, are exceedingly interested to know that in his experience, as in that of Lebert, the use of cold applications has seemed to be of no avail in relapsing fever, on account of the great tendency of the temperature to rise at once when the patient is taken out of the bath. Space to notice this volume here in detail is wanting; but we think its scope has been sufficiently indicated. It can scarcely be credited as a very valuable addition to medical literature, but, no doubt, will find favor with a class of readers.

GLEANINGS FROM EXCHANGES.

THE COLD-SOUND (PSYCHROPHOR), A NEW INSTRUMENT FOR TREATING POLLUTIONS, SPERMATORRHEA, AND CHRONIC GONORRHEA (*The Medical Record*, September 22, 1877).—A little over a year ago, Dr. Winternitz, of Vienna, designed an instrument, by means of which he secures the advantages of the mechanical irritation of the urethral mucous membrane by the metallic sound, combined with the anæsthetic and tonic influence of cold. It consists of a double-current catheter without eyes, the two canals communicating with each other near the point of the instrument. The instrument is introduced into the urethra until its point has passed the pars prostatica, and it is then attached by rubber tubing to a reservoir containing water at the desired temperature. On turning a stop-cock, the water flows into one canal and out through the other, whence it is conducted away by another piece of tubing. In this way the caput gallinaginis and the entire urethral mucous membrane are exposed

to the mechanical action of pressure and to the sedative action of cold. The success obtained by Dr. Winternitz by the use of this instrument was so encouraging from the very beginning, that he has employed it constantly for over a year.

He has treated with it twenty-two cases of pollution. Of these, two did not return after the first application; one was improved at first, but soon became as bad as before, and the treatment was discontinued after the cold-sound had been used sixty-five times; twelve are still under observation, and have been so much improved by the treatment that the pollutions occur very rarely and the secondary symptoms, hypochondria, etc., have entirely disappeared. In three cases the improvement was marked, when the patients withdrew from observation; in two others the pollutions became less frequent, but the secondary symptoms remained unchanged. The two remaining cases are described in detail. In one the patient was a Russian officer, forty-six years of age, and the affection was due to excessive venery. The pollutions occurred regularly in the night after coitus, and recurred two or three times a week when the patient was continent. The cold-sound was used daily for ten minutes with water at 59° F.; during its employment the patient experienced a sensation of pleasant coolness, and the relaxed scrotum contracted energetically. Some difficulty was experienced in removing the instrument. During the four weeks that the treatment was continued, there was only one pollution. The erections became more complete. In the second case the pollutions were frequent, and there were symptoms of excessive spinal irritation. The first introduction of the instrument caused great pain, and brought on an hysterical fit, but these symptoms disappeared after the water (59° F.) had flowed through the sound for five minutes. The treatment was continued daily for three weeks, when the patient was discharged cured. He had not had a single pollution from the time the treatment was begun.

Dr. Winternitz has had sounds made corresponding in size to Nos. 18, 20, 22, and 24. At the first sitting he sometimes uses water at a temperature of 64° or even 66° F., and at a later period sometimes goes as low as 54½° F. Besides the above, he has treated nine cases of spermatorrhœa with the cold-sound. In four of these cases he obtained very favorable results; two cases were very markedly improved, while in the other three the treatment was without special results. In the cases of spermatorrhœa, as well as in those of pollution, in which the treatment proved successful, general relaxation of the genitals and loss of muscular tone in the scrotum were marked symptoms. The cold-sound was also used in five cases of too rapid ejaculation during coitus, and in two cases of obstinate chronic

gonorrhœa. In the former its use was followed by at least temporary improvement, and both of the latter, one of which had lasted three years and the other six months, were cured.

HEREDITARY HEART DISEASE (*The Lancet*, September 29, 1877).—It is not often that an hereditary influence in the occurrence of heart disease can be distinctly traced to any wide extent, although it is often suspected. A remarkable example of such a transmission is recorded by Dr. Rezek, of Töplitz, in the *Wiener Med. Zeitung*. Of the pair from whom the family in question is descended there is reason to believe that the mother suffered from heart disease. They left two sons and five daughters. Of the sons, one is still alive, and suffers from heart disease; the other is dead, and suffered before death from dropsy. His son, moreover, suffers from some cardiac affection. The other son, still alive, has suffered for some years from heart disease, but his children are healthy. Of the three daughters, one died from heart disease, and of her five children all are healthy, but one has married and has had three children, two of whom are cyanotic. The second daughter of the original pair is still alive, and has suffered for many years from cardiac disturbances similar to those of her brother. Of her children, one daughter has died of heart disease, and another has married and has borne a child with well-marked congenital heart disease and cyanosis. The third daughter of the original pair has not suffered from heart disease. Care has apparently been taken in each instance to substantiate the diagnosis.

WHEN NOT TO GIVE IRON (*The Medical Press and Circular*, October 3, 1877).—Dr. Milner Fothergill has contributed a few very practical remarks on the contra-indications for giving this drug. As long, he says, as there is rapidity of pulse combined with rise of temperature, so long must iron be withheld in the treatment of acute disease. As long, moreover, as the tongue is thickly coated, or red and irritable, it is as well to withhold chalybeates altogether. This is particularly true of phthisis: no matter what the other indications are, it is useless, and sometimes worse than useless, to give it unless the tongue be clean without irritability.

It may be laid down as a general rule that this toleration of iron diminishes as the age increases. Young children take iron well, and it is often well borne by them in conditions which in the adult distinctly forbid its use.

There is one condition where iron is absolutely forbidden, and that is the condition known as biliousness. As long as there is a foul tongue, a bad taste in the mouth, and fulness of the liver, with disturbances of the alimentary canal, iron is not only of no service, but positively does harm. Sir Joseph Fayrer's Indian experience is in full accord

with this expression of opinion. In speaking of the treatment of hepatic congestion accompanied by anæmia, he lays stress upon the resort to purgatives and vegetable tonics and the avoidance of iron until the biliary congestion is removed. "When the portal circulation is relieved some preparation of iron may be useful."

When given in large doses iron always blackens the stools, but if given in moderate doses and well assimilated this blackening is not so marked. The color of the stools, then, may be utilized as an indicator as to how far chalybeates are assimilated and are likely to be useful.

There are two different states found in women where iron is either totally contraindicated or to be given with great caution. The first is a condition of amenorrhœa in florid, plethoric persons. The other is the opposite condition of menorrhagia in certain females. There are cases of menorrhagia associated with pallor and debility, where the usual compound of iron and extract of ergot is not so useful as a non-chalybeate treatment. In these cases it is not any imperfection in the process of blood-manufacture which is to be remedied, for the blood is made rapidly and quickly, only to be lost at each menstrual period. It is here desirable rather to limit the rapidity of the blood-formation, so that when the severe vascular turgescence of the menstrual period comes, it will not find the blood-vessels too distended with blood. This will lead to diminished catamenial loss, and so the blood-waste will be economized. According to the experience of Dr. Brown Séquard and Dr. Hughlings Jackson, iron does not suit epileptics. It increases the tendency to fits. It may improve the general condition, but it aggravates the epilepsy.

HYPERTROPHY OF THE BREAST (*The Clinic*, October 13, 1877).—A prostitute, 23 years old, observed after a blow upon the left breast that it gradually increased in volume until finally it attained the size of the head of an adult, so that she was compelled to support it by a bandage passed around the neck.

The transverse diameter was twenty-seven centimetres; the vertical diameter was twenty-four centimetres; the pedicle was thirteen, the circumference was seventy-eight centimetres. The nipple had disappeared; the skin of the mamma was thin and movable upon the glandular tissue. The tumor itself could be moved upon the muscles of the thorax.

Under the skin no fat could be detected; nevertheless the glandular structure was lumpy, divided into separate parts, and enlarged; so that from the symptoms hypertrophy could be positively diagnosed.

As the individual was pregnant, the hope was entertained that the functional activity of the organs implicated would cause a diminution of the tumor, and an operation was

deferred. The milk was lost in the breasts, and at the end of pregnancy the left breast had increased in size. The patient would not permit an operation after delivery. Similar cases have often been described, and of still greater dimensions.

The above-described case is of importance inasmuch as it confirms the view of Sebert that an injury always causes hypertrophy of the breast, and negatives the observations of others, who affirm, from the connection between the breast and uterus, that pregnancy and other extraordinary excitations of the genital organs are remedial to hypertrophy of the breast.

In this case pregnancy had no influence upon the hypertrophy, nor did the patient's mode of life, who continued her unfortunate calling until within a short time of her delivery.

In contrast with the above, a case is quoted from the *Medical Record*, of a young girl aged 16½ years, who had an extraordinary hypertrophy of the mammæ, which remained stationary for many years, but began to decrease immediately after marriage, and finally disappeared.

TREATMENT OF GONORRHŒAL ORCHITIS BY IODOFORM (*The Clinic*, October 13, 1877).—Dr. Julian Alvarez publishes four cases, from which he draws the following conclusions:

1st. Iodoform calms the pain which accompanies gonorrhœal orchitis better than any other agent. The effect is brought about in one or two hours.

2d. Iodoform has a manifest resolvent action, and has the advantage over mercurial ointment, which is usually employed, of never giving rise to dangerous symptoms when absorbed.

3d. Iodoform shortens very decidedly the duration of the disease, and checks the induration of the organ.

4th. An ointment is used containing thirty grammes of lard to two to four grammes of iodoform, according to the intensity of the inflammation.

NEURALGIA IN CONNECTION WITH TROUBLES OF THE ACCOMMODATION OF THE EYE (*The Medical Record*, October 13, 1877).—Dr. George T. Stevens details a number of cases of neuralgia, from a consideration of which he draws the following conclusions:

1st. That among the centripetal influences which generate neuralgia, the irritability arising from a perplexity or exhaustion of nerves engaged in the function of accommodation of the eye must be regarded as by far the most frequent and important.

2d. That where a family tendency to neurotic affections, including neuralgia, is found, we may generally conclude that the inherited tendency is transmitted in the form of the eye.

3d. That many inveterate cases of chronic

neuralgia, not amenable to other forms of treatment, readily yield to the simple process of relieving the eye from irritation resulting from difficult accommodation.

MISCELLANY.

THE MALTHUSIAN LEAGUE.—A society has been established to carry out the modern phase of the Malthusian doctrines. The objects of this society are thus epitomized:

"1. To agitate for the abolition of all penalties on the public discussion of the population question, and to obtain such a statutory definition as shall render it impossible, in the future, to bring such discussions within the scope of the common law as a misdemeanor.

"2. To spread among the people, by all practicable means, a knowledge of the law of population, of its consequences, and of its bearing upon human conduct and morals."

There are no plutocratic checks to joining the League, "the condition of membership being the payment of an entrance fee of 6*d.* (which shall be taken to imply adhesion to the rules of the League), an annual subscription of 1*s.*, or, to constitute life-membership, a single payment of one guinea." Dr. C. R. Drysdale has been elected the first president, and has issued a very able tract.—*Medical Examiner*.

MEDICAL SPECIMENS.—For rapidly preparing bones and ligaments for museum purposes, Dr. L. Frederick recommends (*Scientific American*) that, after the soft parts have been taken away, except the ligaments, the preparation should be washed in water dehydrated by alcohol, and then plunged into essence of turpentine. After two or three days' maceration in this fluid, the skeleton is placed in the position in which it is designed to keep it, and dried in the air. In drying, the bones and ligaments become beautifully white, and the whiteness increases as time passes. The same process gives less satisfactory results for muscles. For a parenchymatous organ, on removing it from the turpentine, Dr. Frederick plunges it into melted wax or paraffin during half an hour or two hours, till the bubbles of turpentine have ceased to pass off. When withdrawn and cooled, the piece resembles a wax model, but it is far superior in its minor details; the color of the organ persists.

EXPERIMENTS WITH THE TAPEWORM.—Some doubt has hitherto existed concerning the identity of the tapeworm in men and in pigs. To solve the question, M. Redan made several experiments on himself, the results of which M. Milne Edwards communicated to the Academy of Sciences. Having found some cysticerci in the body of a subject at one of the Lyons dissecting-rooms, he swallowed four portions of the worm in warm

milk, and gave several other cysticerci from the same subject to a number of pigs and puppy-dogs. The former animals died of enteritis; the dogs, when killed and examined, presented no trace of the entozoa. But three months afterwards M. Redan discovered in his stools the proglottis and ova of a tænium, which were soon followed by the expulsion of a complete section. M. Redan, therefore, concludes that tapeworm may exist in man without the ingestion of a transitory form derived from pork.—*Medical Examiner*.

NOTES AND QUERIES.

1630 ARCH ST., PHILADELPHIA, NOV. 24, 1877.

DR. H. C. WOOD:

DEAR SIR.—In my paper entitled "On Some Forms of Inflammatory Diseases of the Eye being Caused by Defects in Refraction and Accommodation," in the Transactions of the Medical Society of the State of Pennsylvania for 1877, just issued, I find the following typographical errors requiring correction:

Page 8, 20th line from top, should be +36 instead of +35.

Page 10, 7th line from top, Pterygium instead of Pterygia.

Page 12, 10th line from top, a *f* is wanting in astigmatism.

Page 15, 9th line from top, +48° +60e, 180°, instead of +48° +60e.

Page 15, 18th line from top, -16-30e, 105°, instead of -6-30e, 105°.

Page 15, bottom line, -16° -48e, 180°, instead of -16° -48e, 180°.

Please be kind enough to insert this in your next issue of the *Medical Times*, and oblige,

Yours very respectfully,

P. D. KEYSER.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 18, 1877, TO DECEMBER 1, 1877.

ALEXANDER, R. H., MAJOR AND SURGEON.—When relieved from duty as Post-Surgeon at Fort Vancouver, W. T., to comply with par. 2, S. O. 220, A. G. O., c. s. S. O. 167, Department of the Columbia, November 13, 1877.

ALEXANDER, C. T., MAJOR AND SURGEON.—Assigned to duty as Post-Surgeon at Fort Vancouver, W. T. S. O. 167, c. s., Department of the Columbia.

CLEMENTS, B. A., MAJOR AND SURGEON.—Assigned to duty at Camp Douglas, U. T. S. O. 131, Department of the Platte, November 14, 1877.

NOTSON, W. M., MAJOR AND SURGEON.—Assigned to duty at Fort McKinney, Wy. T. S. O. 135, Department of the Platte, November 24, 1877.

GIBSON, J. R., MAJOR AND SURGEON.—Assigned to duty at Fort D. A. Russell, Wy. T. S. O. 132, Department of the Platte, November 16, 1877.

KOERPER, E. A., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Sanders, Wy. T. S. O. 133, Department of the Platte, November 17, 1877.

MUNN, C. E., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Sidney Barracks, Neb. S. O. 132, c. s., Department of the Platte.

COWDREY, S. G., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Cameron, U. T. S. O. 135, c. s., Department of the Platte.

WINNE, C. K., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort McPherson, Neb. S. O. 132, c. s., Department of the Platte.

MOSELEY, E. B., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Camp Robinson, Neb. S. O. 132, c. s., Department of the Platte.

NEWLANDS, W. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at San Diego, Cal. S. O. 142, Division of the Pacific and Department of California, November 14, 1877.

CORBUSIER, W. H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Camp Sheridan, Neb. S. O. 133, c. s., Department of the Platte.



PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, DECEMBER 22, 1877.

ORIGINAL COMMUNICATIONS.

THE DIAGNOSIS AND TREATMENT OF SOME FORMS OF SYPHILITIC NERVOUS AFFECTIONS.

BY HUGO ENGEL, M.D.

IT is a well-established fact that the syphilitic poison produces many acute and chronic lesions of the nerve-centres and their coverings. Notwithstanding the various aspects such cases may present, according to the seat of the pathological action, there is something shared in common by them all, and this, in connection with a kind of uniformity in their appearance and the course they pursue, makes their diagnosis comparatively easy. During the last four years my private practice has included many cases of specific nervous diseases, and my field of observation has been greatly enlarged by the kindness of members of the profession, who, knowing my studies in this direction, have given me further opportunity of enriching my experience.

In all these cases, with the single exception of one, the syphilitic history was denied; but the progress of the disease and the results of treatment proved the diagnosis to have been correct, and in some instances later acknowledgment of the truth of my assertion was made.

My studies embrace a large number of observations, but they have been directed mainly to syphilitic irritation of the brain, hemiplegia, epilepsy, a progressive form of palsy of cranial nerves, and paraplegia. At a future date I propose to publish the history of all of these and give their pathology. To-day I intend only to discuss my observations as regards diagnosis and treatment; referring for the present to the pathological researches of Heubner, Braun, Keyes, Wagner, Virchow, and others.

The importance of diagnosis and the difficulty often connected with it I need only briefly mention. There are so many reasons why the nature of the disease should be denied, and so many why its specific origin should be unknown to the patient, that we are rather forced to recognize the specific virus by its peculiar manifestations. In view, however, of the prognosis and the proper plan of treatment to be instituted, it is necessary to quickly

comprehend the causing element. Specific cases improve rapidly under treatment, and to all intents and purposes a perfect and permanent cure (of the affections spoken of) is often obtained.

In the diagnosis I omit to mention all common and well-known factors, like a clear history, osteocopic pains, old cicatrices, residues of a syphilitic iritis, existing rupial ulcers, enlargement of lymphatic glands, alopecia, and so on. To detect any of these is to suspect syphilis, which should be the guiding rule of all physicians in any "nervous" case where there is the least possibility of a doubt as to the cause of the trouble. The fact may here be recorded that in most of these cases secondary symptoms were entirely absent or very modestly pronounced. In some cases the only external evidence of the constitutional vice was a cicatrix of a rupial ulcer. When there existed a doubt the patient had the benefit of it by taking for a time specific remedies, which, it must be remembered, often exert no small influence on similar cases not originating from lues, but nothing in comparison with their almost magic effect in syphilis.

a. Syphilitic irritation of the brain.

In the varying character of the symptoms presented by different cases, they will resemble more or less those of acute meningitis, or the brain-symptoms of some low fever, or alcoholism, or acute and chronic mania. In a vigilant and extremely restless patient there is moderate fever, with constipated bowels and frequent vomiting, and coexisting with these are delirium and such material alterations in the mental faculties as to often give to the individual the appearance of an insane person. According to the morbid lesion which produces the irritation (tumor, alterations in the arterial coats, meningeal inflammatory processes, etc., etc.), the condition of the pupils will vary. They may be contracted or dilated, or one differing from the other and responding unequally to light. You will likely be informed by some member of the family, or the patient himself, if he is able to speak intelligently, of a previous severe headache, worse at night, associated perhaps with vertigo and a queer temper; or there will be an utter absence of any history whatever; but there is never a history of a sudden beginning or a beginning with a chill. The delirium is good-

natured, and assumes the form of talking nonsense. One patient, whom I saw through the kindness of my friend Dr. Chase, of West Philadelphia, would invariably reply, "Cabbage and beef," when asked what he had taken for each of his three daily meals, when he had had nothing of the kind. While there is some slight febrile movement, there is never a hard and tense pulse. The face is neither flushed nor pale, but is natural, with the exception that you cannot get the patient to look you in the face.

The negative history is a great point, for by it you are materially assisted in coming to a correct conclusion. The absence of any history of accident, alcoholism, long sickness, etc., we will readily appreciate as valuable data well worthy of consideration in the concluding inferences. The aspect of the case is peculiar, which the experienced physician will immediately recognize and be clearly impressed that there is no serious danger yet to life or brain, notwithstanding the presence of some symptoms which under other circumstances would indicate the gravest prognosis. I may say, then, that the hazy and only partial picture of a perilous brain-disease should invariably cause suspicions of a syphilitic origin.

b. Hemiplegia syphilitica.

A patient becoming suddenly unconscious and awaking with hemiplegia, paralysis of the facial nerve, and perhaps aphasia, at once suggests some variety of apoplexy. My first experience involved my mind in considerable puzzling doubt. In hemiplegia due to any of the different forms of coup de sang, to softening, tumor, etc., there is a total absence of any history, or a clear record of valvular lesion, an injury, or a hereditary tendency. In syphilitic cases there is generally headache, and always irritability of temper, long previous to the attack, which occurs usually in a young subject. The nutrition of the paralyzed parts is never disturbed, and the electro-muscular contractility is mostly well preserved, and when very rarely partially lost it rapidly returns under treatment, while, on the contrary, in non-specific cases it soon diminishes, and later almost disappears, and when once lost never returns.

c. Syphilitic epilepsy.

This is, in my experience, invariably produced by a brain-tumor, and has a long

antecedent history of headache, and occurs in the prime of life in a person formerly not subject to it. The headache becomes severe several days, often, previous to the convulsions, which are generally one-sided and happen at long intervals, but then often many in one day. There is no facies epileptica, but local palsies, as in other brain-tumors, will be noted.

d. Progressive paralysis of the third, fourth, fifth, sixth, and seventh nerves, associated with headache, which increases towards evening, and occurring in an otherwise healthy individual, I have found to be invariably produced by the syphilitic poison.

e. Paraplegia caused by lues gives a history only of a little pain and numbness, not like spinal meningitis in severity, and never totally absent, as in spinal apoplexy. The disease, as regards its manifest phenomena, closely simulates softening of the cord, but there are several significant and differential points. There is no history of exposure to cold and damp in a rheumatic person, and even when reflex excitability is totally abolished and anæsthesia complete, the electro-muscular contractility will be only diminished and never absent; neither will there be bed-sores, nor wasting of the affected limbs.

I briefly quote the following interesting case, which I saw through the kindness of Dr. J. H. Lopez. A servant-girl, æt. 22 years, complained for a few days about some slight pain in her limbs and abdomen; this was soon followed by a sense of numbness, and shortly afterwards she awoke one morning completely helpless. A physician was called, who pronounced the case to be one of incurable myelitis. A month later the patient came under the charge of my friend Dr. Lopez, who, immediately suspecting the true nature of the trouble, kindly asked me to see the case with him. On examination we found complete paraplegia, paralysis of the sphincter vesicæ, anæsthesia and analgesia in both limbs and the lower part of the abdomen, the feeling of a constricting band, reflex excitability totally abolished, but electro-muscular contractility only diminished, no wasting of the affected limbs, and a large rupial ulcer at the angula scapulæ dextræ, which had been taken for a bed-sore. I will here add that in about six months the patient attended to the duties of waitress in Atlantic City.

To sum up *in toto*: Syphilitic nervous affections which simulate grave and often incurable diseases from other sources, namely, acute meningitis, apoplexy from other causes, epilepsy, softening of the cord, etc., are recognized as specific in their nature, even if this nature be denied, by the following points:

1. The aspect of the case, as recognized by the features, the pulse, the temperature, the violence of symptoms, lacks that gravity which would attend a non-specific case of the same character.

2. There is total absence of any history, as usually elicitable in such affections, when not produced by lues, or the history points to certain warning symptoms like headache and vertigo worse towards night, irritable temper, numbness, etc., totally different from similar cases of a non-specific nature. The patient either does or will not know any causing element.

3. In paralysis the electro-muscular contractility is never totally abolished; and if it would seem so it is quickly re-established under a specific treatment that would never have that rapid influence in non-syphilitic cases.

4. There is no wasting of tissue for a long time in the affected limbs.

5. The spleen is invariably enlarged.

In the *treatment* of all syphilitic diseases specific remedies are employed, but when a nervous centre is attacked the symptoms demand their use in a manner which quickest counteracts the virus, and my experience has caused me to adopt a plan which, in my hands, has been very successful.

I have subjected such patients to a prolonged course of iodide of potassium, beginning with gr. v, gradually increasing the dose to \mathfrak{z} i three times daily, to which I have added in some cases bichloride of mercury in doses varying from gr. $\frac{1}{32}$ to gr. $\frac{1}{6}$. Again I have given the mercurial preparations alone, and in certain cases employed some of them hypodermically, and made use of decoctum Zittmannii. From all of these undoubted benefit was noticed, but nothing in comparison with the good results obtained by the following course, which I am now in the habit of directing.

When the patient is yet able to be about, or from some other cause it may be impossible to keep him in bed, although in the majority of cases the very nature of the disease necessitates confinement in bed, directions are given for an easily digestible

diet, the avoidance of stimulants, and the use of the following prescription:

R Hydrarg. chlorid. mitis, gr. iii;

Extr. opii, gr. ii.

M. c. glycer. ut f. pilulæ No. ix. Sig. —One pill three times daily.

On the third day I increase the calomel gr. i, and if there should be diarrhœa the quantity of opium is also augmented, and in case of stubborn constipation a Seidlitz powder is prescribed. In this way the mercury is increased every third day, until the first symptoms of salivation make their appearance, when the medicine is continued, without further augmentation of the calomel, until all the symptoms of the disease have disappeared. In the mean time a chlorate of potassium gargle is used every hour, and the patient is carefully cautioned against exposure to cold, and is directed to use no tobacco, to take only a fluid diet, and to have his bowels moved twice daily. Usually it is required to keep up the soreness of the gums from one to two weeks. Should, however, the salivation become too severe, and mercurial ulceration set in, the calomel should be discontinued and the sores touched lightly with strong nitric acid every third day. A saline purge is here proper, and sulphur vapor baths or warm water baths are ordered. When the mercurial stomatitis is thus cured, a prescription is given for potass. iodid., gr. x; tinct. cinchon. comp., $\mathfrak{f}\mathfrak{z}$ i; to be taken three times daily in water. With occasional intermissions this is taken for many months, and its use advised four times a year for three weeks at each time for the remainder of life, unless some contra-indication should arise. The utmost attention should be paid to the warning symptoms of a graver mercurialism. The heart must be frequently examined, and the slightest tumor most carefully watched. With these cautions always in view, I have not a single case of bad results to record.

But when the symptoms are more urgent, and irreparable damage threatens the great nerve-centres, or when the above-mentioned treatment has failed in its object and relapses occur, showing no decided influence in staying the progress of the disease, then the most rapid and thorough means of counteracting the poison is imperatively demanded, and the daily inunction of one drachm of mercurial ointment will be found the most successful.

The patient is confined to the bed, and

the inunctions are begun on the inner side of one calf, and the next day on the other; and in the same way on the thighs, arms, and chest. A warm bath is then—on the ninth day of the treatment—directed, and the surface of the body thoroughly cleansed with soap. Then the inunctions are repeated. The same directions for hygiene, diet, mercurialization, etc., are given, as mentioned under the calomel treatment, and the whole is in the same way followed by the iodide of potassium. It may be necessary to keep up the treatment from two to six weeks, or even longer. Of seventy-nine cases two-thirds were under the inunction treatment three to five weeks, two-ninths about six weeks, and one-ninth between two and three months. It is astonishing how well these patients bear mercury, and I have never had cause to regret pushing the treatment until the disappearance of the symptoms.

For individual symptoms—restlessness, paralysis, etc.—the common treatment holds good. Hydrate of chloral and morphia for restlessness, electricity for paralysis of the cranial nerves, electricity (not much good) and manipulation (greatly to be recommended) with hypodermic injections of strychnia in paralysis of the extremities,—all form valuable adjuvants in completing the cure.

In conclusion I will add that I lay no claims to originality in advancing this treatment, it being, with slight modifications, “as old as Methuselah.” Whoever has so far been satisfied with those works of therapeutics mentioned in the beginning of my remarks on treatment, and will now adopt the plans I have recommended and compare the results of success, I am sure will bear kindly with me for again drawing attention to this ancient mode of applying the anti-syphilitic remedies. Relapses will occur under any treatment, but certainly with less frequency and less severity under the plan to which this article has called attention.

I take this opportunity of expressing my thanks for the assistance of my friend Dr. Wm. A. Johnston in the preparation of this article.

ACCORDING to the report of Dr. W. R. Gilfoyl, the attempted cultivation of the cinchona-tree in Australia is a complete failure, from climatic reasons.

DR. STOKES, of Edinburgh, has had an attack of apoplexy.

A REMARKABLE CASE OF SYPHILITIC INOCULATION.

BY HOLLINGSWORTH NEILL, M.D.,

Surgeon to the Out-Patient Department of the Hospital of the University of Pennsylvania.

IT is with the hope that this case of syphilitic poisoning, which came under the writer's own observation, may prove of some interest to those of the profession who are more or less interested in this particular branch of medicine, that he has obtained permission to publish its history.

Mr. X. Y., until six months ago, was perfectly healthy. At that time he presented himself to me, having a small ulcer on the right side of the back of the glans penis, within a quarter of an inch of the frænum and an eighth of an inch of the corona. He stated that it had appeared about a week before, in the form of a small papule. This broke and left the present sore; the surface of this was dry and glazed. There was but slight induration, which, however, gradually increased as time wore on.

In about a month or five weeks constitutional symptoms appeared. These were marked enlargement of both the cervical and inguinal glands, roseola on the back and thighs, slight sore throat, and rheumatism in the large joints. Upon seeing these symptoms, I had no doubt in regard to the character of the sore. I immediately put him upon the protiodide of mercury, which he is still taking. All active symptoms have been absent for the last three months.

Upon his first visit I, of course, asked him how long it had been since he exposed himself. He stated, in reply, that he had had intercourse with but *one* woman for the past two years, and previous to that time with but one or two others, from his intimacy with whom no specific trouble had ever accrued. Let me say here that there is not the slightest reason to doubt a statement of his, he being a man “about town,” in whom I had previously dilated a stricture. I immediately became interested, and asked him if he would not endeavor to persuade his mistress to submit to an examination. This she readily agreed to.

She was twenty-four years of age, and apparently perfectly healthy. There were no sores or scars upon the surface of her body. No nodules could be detected. Upon examination of the vulva, I found a large cicatrix at the base and on the inside of the right labia minora, where, she told me, there had been a sore a little over four years previous. She stated that she had contracted this from her husband, from whom she was now divorced; that about a month subsequent thereto a rash had appeared upon her body; that there had been enlargement of the inguinal glands;

that at the same time there was great pain in all of her large joints; that she had immediately consulted a physician (stating who it was), remaining under his treatment for a year, during which time she continuously took pills or fluid medicine three times a day; that about a month after the rash appeared, all symptoms subsided, and at the end of the year the physician discharged her, cured. From that time until this interview she denied having any symptoms whatever. She stated that her menses were perfectly regular. I then made a very careful examination of the vagina, and, after searching with an excellent light for half an hour, failed to detect any mucous patch. I made several subsequent examinations, all with the same result. At each I found the uterus covered with the normal amount of mucus, which was apparently healthy; that is, I could detect no pus in it. Upon wiping this away, its continuity was unbroken.

I may say here that I made no particular examination of her mouth, as it appeared perfectly healthy. I deemed this unnecessary, from the character of the man, and, I might say, of the woman also, as she was not a prostitute, having lived with no other man than her husband previous to this intimacy. From this time until about six weeks ago, she has been constantly under my eye, at all times yielding readily to any examination that I might wish to make.

During this period of four months and a half no eruption of any kind appeared upon the skin or mucous surfaces, and, to the best of my knowledge, no treatment was undergone.

I carefully inquired of my patient if he had used any public water-closets. He was sure he had used no other than those in his own house and that of his mistress, excluding any contagion from that source. He knew of no friend suffering from syphilis, and was not aware that he had handled anything upon which syphilitic poison might have been present.

Such is the history of the case.

The question naturally arises, By what means did the glans penis of this patient come in contact with syphilitic poison? I can suggest but three; the first two of which seem more than improbable, and the last, a mode similar to which few cases have been reported, and these few greatly doubted by many able syphilographers: 1, that the poison was conveyed to his glans by means of his hands in the act of micturition, they having been previously in contact with something syphilitic; 2, that he contracted it from the hands of his mistress, they also having been previously in contact with something syphi-

litic; and, 3, that he contracted it from uterine and vaginal secretions which, to the eye, were free from pus and apparently healthy.

I think this last hypothesis, assumed for the explanation of the exhibition of the disease, to be the true one, and that this is one more of those few cases reported, in which it has been contracted at a time when there were no constitutional symptoms present—at least none could be detected—from a woman who denied having had any such symptoms during the past three years and a half, and who positively did not have any during the four months and a half following the termination of that period. During these four months and a half she submitted herself to no treatment, unless—and this is more than improbable—she did so surreptitiously.

I have seen reports of none of the few cases that have occurred, although several authors refer to them.*

I think the history of this case gives additional weight to that view which tends to make us excessively guarded when asked to express an opinion as regards the liability of any particular woman to inoculate with this poison.

IRRIGATION OF THE LARGE INTESTINE.

BY C. W. DULLES, M.D.

SOME time since, in reporting a clinical lecture of Dr. Alois Monti, of Vienna (*Philadelphia Medical Times*, August 4, 1877, p. 517), I gave an account of the method of irrigating the large intestine, which he uses so successfully in treating inflammatory conditions of that part of the bowel.

About the time of this publication I met one day Dr. W. C. Barrett, who spoke to me of a severe case of infantile enteritis then under his care. The child was aged six months; had been very ill, vomiting and purging incessantly; had at that time a rapid, feeble pulse; was in a state of extreme depression, and he thought must die. He had employed the usual remedies,—chalk, bismuth, opium, aromatic and astringent tinctures, with enemata of lau-

* In Bäumler's monograph he mentions cases reported by Lee, Morgan, Hill, Marston, and Tarnowsky; but, with the exception of Morgan, it is not mentioned to what extent the constitutional symptoms were present, if they were present at all.

danum and acetate of lead; but all apparently in vain. Consequently he was quite ready, at my suggestion, to try the plan of irrigating the large intestine alluded to. This he carried out with a so-called fountain syringe, to the tube of which was attached a flexible male catheter. This being introduced into the rectum, cool—not cold—water was allowed to flow from a height of about two feet until good distention was secured, when with scarcely any pressure the end of the catheter passed smoothly through and beyond the sigmoid flexure, going well up into the descending colon. The water was now allowed to flow steadily on until about a pint and a half had entered, and inspection and percussion showed a large portion of the colon to have been filled. All medicine was then stopped, except *mistura cretæ*, and for food milk was allowed and the sucking of a piece of slightly-roasted beef.

The next day there was a marked improvement. "The method," says Dr. Barrett, "worked like a charm." He now repeated the irrigation, using not quite so much water. The improvement continued, and convalescence was so rapid that he considered the child well in six days. The vomiting and purging were gone, it was able to suckle and digest properly, and the only treatment used afterwards was a short tonic course to assist nature in repairing the inroads made by the disease upon the child's general condition.

The success achieved in this case seemed so plainly dependent upon the procedure described that it furnishes me a welcome opportunity to recommend it to others more explicitly than in the previous article. I have seen it used by Monti in a variety of disorders of the large intestine, as well as for the expulsion of worms and flatus, and always with good results.

In inflammatory conditions of the colon in children he has used solutions of nitrate of silver, such as have been recently recommended in the treatment of dysentery in adults by Prof. H. C. Wood (see *Philadelphia Medical Times*, October 27, 1877), but decidedly prefers less powerful astringents when—which is very rarely—any are required. In such a case he is apt to select alum in a one or two per cent. solution, sometimes adding a few drops of laudanum. In general, however, he confines himself to the use of simple water, beginning with a temperature barely cool and descending

with the successive irrigations till it is about that of spring-water.

He never uses a predetermined quantity, but allows enough to flow in to fill the whole colon "*to the valvula coli*." In children not yet weaned he finds more than two pints may be used; older children require up to twice this quantity. The quantities used in Prof. Wood's cases of adults were very small compared to these.

It should be stated, in regard to the mode of effecting irrigation, that Monti strenuously opposes the use of a syringe of any kind. The intermittent and uncertain action of these provokes resistance on the part of the intestine, and he thinks may do harm. The securing of an even and easily-regulated hydrostatic pressure is an essential feature of his method. *Still more essential is the distention of the rectum with fluid before attempting to pass the tube through the sigmoid flexure.* This precaution secures the smoothing out of the folds of mucous membrane and straightens the curves of the flexure, thus rendering the passage of the tube perfectly safe and easy.

Whatever variety of opinion there may be in regard to the possibility of sending an *injection* beyond the sigmoid flexure, there can be none in regard to the feasibility of "irrigation" by any who have tried or seen it.

Finally, I may say that no special position of the patient is necessary, though it is well, if convenient, to have the pelvis a little elevated. The steps of the procedure are sufficiently indicated in the case given above.

4041 LOCUST STREET, PHILADELPHIA.

NOTES OF HOSPITAL PRACTICE.

JEFFERSON MEDICAL COLLEGE HOSPITAL.

CLINIC OF DR. R. J. LEVIS,

One of the Surgeons to the Hospital.

Reported by JOHN B. ROBERTS, M.D.

OVARIOTOMY FOR THE REMOVAL OF A MULTICULAR CYST.

THE case brought before you this morning is one of ovarian disease which is believed to be cystic in its nature. The patient's history, as shown by the notes of Dr. Charles Wirgman, the resident surgeon, is briefly as follows. Mrs. M., 41

years of age, and the mother of three children, has for about two years observed a tumor in the abdomen, occupying especially the right side. She was admitted to the hospital a few days ago for operation, and since that time has been kept upon a nutritious diet, and has been given tincture of the chloride of iron and quinine. Previous to the time of operation her bowels have been well emptied by castor oil, that she may not be obliged to void any fecal matter for a number of days subsequent to the operation. Her urine has very properly been examined by the resident, who says it contains no albumen.

Cystic disease is one of the most common affections to which the ovary is subject, and these cystic tumors may be unilocular or multilocular. The latter are distinguished from the former in that they consist of innumerable cavities, containing fluid, congregated together, instead of being a single distended sac or bag. The growths, besides the fluid contents, contain usually a certain proportion of solid matter in addition to the mere walls of the sacs, and therefore when they attain considerable bulk become of great weight. Their presence in the abdomen sets up inflammatory action; and as a result adhesions to the walls, to the omentum, and to the intestines are of frequent occurrence, especially if the disease be of long duration. The existence of these adhesive bands is a matter of great moment in regard to operative interference, for the more free the tumor the less probability of hemorrhage at the time of operation, and of the advent of peritonitis subsequently.

The diagnosis of ovarian cyst is important, and presents some points of difficulty; but careful examination will render the nature of the case apparent in nearly all instances. Ascites, or dropsy of the peritoneal sac, must be considered; but the differential diagnosis is here made by the facts that the distention of the abdomen is symmetrical and not developed originally on one side; that change of position of the patient from one side to the other alters the region of percussion-dulness, because the intestine readily floats upward on the ascitic fluid; and that peritoneal dropsy generally depends on disease of liver, kidney, or heart, and therefore occurs in persons much debilitated by the original disease, while ovarian cyst often exists a long time before the condition of

the woman shows any marked deterioration. These points may, in cases, be strengthened by an exploratory puncture and a microscopical examination of the fluid.

Errors have frequently occurred by mistaking tumors of the uterus for cases of ovarian disease. In disease of the ovary the womb generally retains its position in the pelvis and its mobility, and is of normal shape and size, as determined by vaginal examination. In this case a digital examination shows the uterus to be freely movable in the pelvis, which could scarcely be the case if a uterine growth of any bulk existed, and the introduction of the sound into the cavity of the uterus shows the organ to be of normal size. Tumors of the omentum, mesentery, and other organs, complicated with ascites, must also be eliminated before an absolute diagnosis is made; and, by the way, ascites may at times exist along with ovarian disease itself, and serve to obscure the diagnosis. A point which will often be of service is this, that by pressing suddenly upon the abdominal wall with your fingers you will find your hand suddenly checked as the indented muscles strike upon the firm surface of the tense tumor within. This, of course, cannot occur if there is simple ascites without an intra-abdominal tumor, though it is not absolutely certain that the mass so felt is an ovarian growth. Again, by moving the abdominal wall sideways with the palm of the hand the surgeon perceives at times a sensation of friction or grating between the two surfaces. Whether or not the growth be composed of one or of many cysts it is frequently nearly impossible to determine; but this patient, in all probability, is suffering with a compound cyst of the right ovary without many attachments to the adjacent viscera.

The treatment practically consists of two measures; first, tapping, which relieves the symptoms only temporarily, because the sac soon fills up again; and secondly, extirpation of the tumor by ovariectomy. The radical treatment will be pursued in the present case, as the patient seems to be a favorable subject for operation and is willing to undertake the risk. The procedure is one of the most serious operations in surgery, for the peritoneum must be wounded and the surface exposed to the air, which renders the membrane liable to assume inflammatory action that may

lead to a fatal issue. In addition to peritonitis, pyæmia may be the cause of an unfortunate termination, or the patient may sink from exhaustion consequent upon the shock of so serious an operation.

The stages of ovariectomy are section of the abdominal parietes; tapping the various cysts to reduce the size of the tumor and allow its extraction through a small wound; severing the adhesions; excision of the tumor and ovary from the pedicle; arrest of hemorrhage, and proper measures to facilitate drainage from the abdominal cavity. In the present instance the hands and instruments, as well as the sponges, are dipped in carbolized water, and then an incision some five inches long is made in the median line, which brings to view the various cysts composing this multilocular tumor; then a large trocar is thrust into the sacs to allow the fluid to drain off. The fluid, as is readily seen at a distance, is sometimes coffee-colored, and sometimes perfectly clear and gelatinous: these differences depend upon the fact that the trocar punctures first one cyst and then another. A consideration of importance is to prevent, as far as possible, the escape of any of this fluid into the peritoneal sac, since it may cause subsequent trouble. The bucket is now about one-third full of this mixture of fluid and gelatinous material, and the tumor so much reduced that it can be extracted through the small incision. There seem to be no adhesions except at the posterior part, where the surface of the cyst is attached to a coil of intestine; this is now carefully detached and the tumor turned out through the wound in the belly wall. The success of ovariectomy depends much on the extent of adhesion, because the detachment of the bands may give rise to subsequent peritonitis, or may be followed by profuse hemorrhage from innumerable small vessels. In a case which I operated on a few years ago the attachments were very general, and, after dividing them, there was oozing from every point, so that the bleeding became uncontrollable and the woman died from loss of blood. We see in this case, at one point, evidences of old local peritonitis, which is not uncommonly set up by rupture of one of the small cysts of the growth; this, very likely, has been the case in the present instance. There is no hemorrhage here, and the tumor is now cut from its pedicle, which had been embraced in a clamp to

preclude the possibility of hemorrhage. It, as you see, is large enough to fill this basin, and consists of many cysts that have not been punctured. The peritoneal cavity must next be examined and thoroughly cleansed, lest any fluid, clots, or even sponges be left within; and then the pedicle, with the clamp attached, is brought out at the lower edge of the abdominal wound, and sutures used to approximate the edges of the incision. A large tent of lint soaked in carbolized oil is placed at the bottom of the wound also, to afford free exit of the inflammatory products formed in the cavity during the next few days.

Sometimes instead of carrying the pedicle out at the wound an opening is made in the posterior cul-de-sac of the vagina, and the pedicle carried down in that direction, while the external incision of the abdomen is entirely closed. This method gives free drainage at the most dependent part of the peritoneal sac, and tends thus to prevent septicæmic influences.

A dressing of carbolized lint is applied to the wound, the abdomen is covered with a large mass of cotton, and the body surrounded by a bandage. The woman has been thoroughly and very quietly etherized during the operation, and will now be carefully watched lest any untoward symptoms occur. The urine must be drawn every six hours, and she shall be treated with suppositories of morphia and quinine.

* * * * *

After the operation the patient reacted nicely, and in the evening was doing well. No vomiting had occurred, and the general symptoms, as evinced by the pulse, etc., were very favorable. The following day, however, she became restless, and showed signs of depression, which were combated by enemata of brandy and quinine; but she continued to fail, and died on the third day after operation, apparently from exhaustion, for there were no symptoms of peritonitis. Dr. Wirgman made an examination of the abdomen, and found the intestines of normal appearance, with no lymph upon the surface, and merely an ounce or two of serum in the peritoneal cavity.

PROFESSOR CLELLAND, successor of Dr. Allen Thomson in the chair of Anatomy at Glasgow, in his recent inaugural address announced himself an opponent of Darwinism.

TRANSLATIONS.

COMBINED USE OF CHLOROFORM AND MORPHIA.—Prof. König, in a communication to the *Cbl. f. Chirurgie* (No. 39, 1877), says he has combined the hypodermic administration of morphia with that of chloroform in a large number of cases, with very favorable results. It is seldom necessary to give more than one or at most two centigrammes ($\frac{1}{16}$ to $\frac{1}{8}$ gr.).

The indications for the use of morphia during chloroform-narcosis are twofold: 1. Motor disturbances occurring before or during chloroform-inhalation, unless these are very transitory. 2. Operations of such a nature that the chloroform-narcosis cannot be maintained throughout, and especially towards the end. Among the latter may be particularly mentioned operations upon the eye, plastic operations, extirpation of tumors from the soft parts of the face. The object of using morphia is to induce analgesia over and above the chloroform-narcosis, and also that this narcosis should not be pushed so far. As regards any danger which may be connected with the combination of narcotics, K. esteems this lightly. He says that out of some seven thousand cases in which he has used chloroform, none have died from it, and many of these took morphia also. x.

TREATMENT OF SYPHILITIC LARYNGITIS.—M. H. Duret (*L'Année Méd.*, No. 10, 1877), in the course of a review of M. Isambert's work on syphilitic laryngitis, suggests the following methods of treatment. The general treatment should consist in protiodide of mercury in pills ($\frac{1}{4}$ to $\frac{1}{3}$ gr. ter die), or bichloride in solution. Should the affection have passed the secondary stage, iodide of potassium may be employed, or, in stubborn cases, the "mixed treatment." Tonics, iron, quinine, etc., are usually called for. The patient should carefully avoid catching cold, and should avoid the use of tobacco and alcoholic liquors. Complete repose on the part of the organ itself is absolutely essential. The local treatment is of great importance. In the early stages, when we have only congestion or superficial ulceration, insufflations of powdered tannin, alum, nitrate of silver, or, better still, spray of carbolic acid solution, or solutions of alum, acetic acid, sulphate of zinc, etc. When the laryngoscope shows

ulceration, the local treatment should be more precise and energetic. Cauterizations at the seat of ulceration may be practised, by means of a small sponge moistened with tincture of iodine, solution of nitrate of silver, of sulphate of copper, 1 to 30; of alum, 2 to 30; of sulphate of zinc, 1 to 100. These substances are preferably to be dissolved in pure glycerine. The crayon of nitrate of silver or sulphate of copper may also be employed. Experience has shown that excessive inflammation and œdema of the glottis are not to be feared with this treatment. M. Isambert has obtained excellent results in rebellious cases by the use of chromic acid 1 to 8 and 1 to 5, which modifies the pathological tissues advantageously. When necrosis of the cartilages sets in, a practised surgeon may sometimes succeed in preventing extension of the injury by cauterizing the diseased points by means of the galvanic cautery. Dr. V. Masson, in his thesis (Paris, 1875), has given the indications for tracheotomy with great exactitude. The surgeon may be called upon to perform this operation on account of asphyxia from œdema of the glottis, gummy tumor, or vegetations obliterating the air-passages, abscess, inflammatory swelling, or obstruction by loosened portions of necrosed cartilage.

When asphyxia comes on progressively, Isambert recommends cauterizations by chromic acid (1 to 3), thus crisping the swollen tissues, giving access to the air, and sometimes influencing the disease favorably at the same time. He reports two cases cured in this way. The patient must, however, be carefully watched, and if relief is not gained it will be necessary to operate. When the progress of asphyxia is sudden, tracheotomy is to be performed at once, even when the patient is *in extremis*. M. Trelat reports seventy-six recoveries in one hundred cases of tracheotomy in œdema of the glottis from syphilitic laryngitis. x.

CREASOTE (TRUE) IN THE TREATMENT OF PULMONARY PHTHISIS.—Drs. Bouchard and Gimbert (*Bull. Gén. de Thérap.*, v. 2, 1877, p. 289) allude to the existence of two varieties of creasote, one derived from the distillation of wood-tar, the other the ordinary creasote of commerce. The density of the former is 1060, that of ordinary creasote 1040. If into a dilute alcoholic solution of these creasotes a few

drops of a dilute aqueous solution of perchloride of iron is dropped, there is developed, in the case of the wood-creasote, a greenish coloration, changing to brown, and in the common creasote a bluish color, which becomes violet. Common creasote coagulates collodion, while true creasote leaves it quite transparent. These reactions differentiate true creasote from carbolic acid. According to Messrs. B. and G., true creasote has never been administered in sufficient dose or in a proper manner to produce its best effects. They have used it in mixture with alcohol, water, and cod-liver oil. One of their formulæ is as follows:

R Wood creasote, 13 grm. 50 (f3iij ℥x);
Alcohol, 250 grm. (f3vii);
Sherry wine, sufficient to make 1 litre (Oij). M.

In certain cases of aepsia this may be mixed with tinct. gentian. A tablespoonful contains 20 centig. (3 gr.) of creasote. One or two may be taken in a glass of water, morning and evening. Certain patients, children in particular, cannot take this preparation. In such cases, cod-liver oil, which dissolves creasote, may be used.

R Creasote (from wood-tar), grm. 1 to 2 (gr. xv ad 3ss);
Ol. morrhue, grm. 150 (f3iv, f3vjss). M.

This solution is quite limpid, and not at all acrid. Children take it very well.

Messrs. B. and G. have administered creasote, in one or the other of these mixtures, in a number of phthisical patients, continuing its use through considerable periods of time, and with satisfactory results: cough and expectoration cease, fever and consumption disappear, patients take on flesh, and physical examination shows either a return to health or some process of cicatrization. The patients have been *apparently* cured. The authors give some statistics in support of this assertion. Cough is usually arrested by the amelioration of the disease. Occasionally, however, the creasote acts as an irritant and has to be abandoned. Vomiting from coughing is less frequent; diarrhoea and albuminuria are unaffected. The most marked results have been observed in cases accompanied by profuse expectoration. x.

BLUE BILE.—At a recent meeting of the Académie de Médecine (*Le Mouvement*

Med., 1877, p. 428) M. Planchon communicated, in the name of M. Audouard, an interesting note on blue bile. M. Audouard had occasion to examine an intensely blue liquid which had been vomited by a woman just before death. Poisoning by some salt of copper had been suspected, but chemical analysis showed the vomited fluid to consist simply of bilious matters colored by some pigment which by its fluorescence and the absorption-band which it gave in the spectrum seemed analogous to one of the products of biliverdin. Nevertheless, all the properties of this liquid presented a great affinity with those of the pigment isolated by M. Ritter from human bile and found also by him in the bile of other mammals. x.

POISONING BY MUSHROOMS.—At a recent meeting of the Académie de Médecine (*Bull. Gén. de Thérap.*, v. 2, 1877, p. 183) M. Gubler read a report upon a recent work of Prof. Oré, entitled "Experimental Researches on Poisoning by *Agaricus Bulbosus*." M. Oré lays particular stress upon the nervous disorders occasioned by the active principle of the poisonous agaric (*Am. phalloïdes*), and also upon certain paralytic phenomena of a very transitory nature. These disorders consist essentially in a spasmodic condition such that the slightest excitation determines muscular jerkings or generalized convulsions, so that the animals appear to be the subjects of true tetanic attacks, coming on from time to time in apparently a spontaneous fashion. M. Oré has even observed tetanic rigidity among the phenomena constantly observed after death. x.

PHOSPHIDE OF ZINC.—Gros, in *La France Médicale*, No. 74, 1877, extols this article, and advises its use in nervous affections, and especially in hysteria; giving at the same time a long list of neuroses in which it has been successfully used by physicians in America and England. He says that, though hysteria is an affection strange in its termination, so many cures have been reported that we should prefer this remedy to others because of its promptness of action, its facility of administration, and its innocuousness. It is stated that, contrary to expectation, it is innocuous, because if a toxic dose is given vomiting invariably occurs, which prevents the poisonous action of the drug. The best form for administration is the granule. J. B. R.

PUERPERAL INFECTION OF NEW-BORN CHILDREN.—There are recorded three cases of this kind in *Centralblatt für die Med. Wissenschaften*, No. 32, 1877, p. 588. The first was under the observation of Von Hecker, and is recorded as follows. A woman in the last stages of pregnancy was operated on for tracheo-stenosis which threatened death. Subsequent to the tracheotomy it became evident that a fatal issue would ensue from secondary hemorrhage, and Cæsarean section was done forty hours later to save the child. The mother died, and the child, when one and a half hours old, was taken into the confinement ward. It became sick on the following day with symptoms of puerperal infection, as shown by dyspnoea, high temperature, dislike of nourishment, and grayish-yellow color of the skin, and died forty-eight hours later. The examination showed double purulent pleuritis and pneumonia. As the umbilical cord had not yet sloughed off, infectious miasm was apparently admitted by means of the respiratory function.

Küstner has collected two cases where children, aged respectively two and three days, died of pneumonitis and pleuritis. Both children were exposed to inhalation of the discharges, which in one case were certainly putrid. One mother died on the fourth day of septic poisoning with peritonitis, the other had facial erysipelas and some uterine inflammation. It is concluded by Küster that the lochiæ in impure air become a particularly good generating fluid for fermenting bodies, and may produce pneumonia and septic poisoning if inhaled when putrid, or if they give rise to a putrid condition in the lungs subsequent to the sojourn of the child in the impure air.

J. B. R.

INFLUENCE OF THE SPINAL CORD ON TEMPERATURE.—The experiments of Parinaud (*Centralblatt für Chirurgie*, No. 35, 551) on rabbits show that section of the medulla in the dorsal and cervical regions is followed by a diminution of temperature as shown by the thermometer in the rectum. The decrease of temperature is evidently due to the cooling of the portions of the body paralyzed by the section of the cord, for their temperature, as taken in the ham and axilla, during the whole experiment is lower than that of the anterior portion of the body, which still has direct connection with the brain. On the contrary, however, he found in the

region of the paralyzed portions an increase of heat of the skin and toes, but this symptom, being due to paralysis of the vaso-motors, is temporary, and depends upon the relation of the temperature of the skin before the experiment to the temperature of the surrounding atmosphere. The experimenter concludes that this decrease of internal temperature after section of the cords results in the following way. The temperature of the paralyzed portions is immediately elevated on account of vaso-motor paralysis, but in consequence of the great extent of surface and the accelerated circulation in the cutaneous vessels, more heat than usual is given off by these parts. On the other hand, the process of oxidation has its activity lessened in the tissues of the palsied region. Hence, as there is greater radiation of heat from the skin, and greater decrease in the production of heat in the tissues of the affected parts, there is of necessity a diminution of the internal temperature.

J. B. R.

CUTANEO-PHARYNGEAL FISTULE CURED BY THE CAUTERY.—Dr. Ricardo Guijo reports in *La Andalucía Médica*, August, 1877, p. 169, a case where a fistulous track extended from the front of the neck at the level of the thyroid cartilage, backwards and to the right, until it opened, not into the larynx, but into the pharynx, as was proved by injecting water into the cutaneous orifice. After trying unsuccessfully tincture of iodine and solutions of nitrate of silver as local injections, he passed a probe along the crooked path, and upon this a canula; afterwards he pushed through this a red-hot copper wire, fitting the canula, and thus cauterized the parts without danger of forcing the red-hot wire into other tissues. The pharyngeal opening soon closed, but a second cauterization was required to complete the cicatrization along the whole track of the fistula. The cure was permanent.

J. B. R.

* **CURARA IN EPILEPSY.**—C. F. Kuntze (*Deutsche Zeitschr. f. prakt. Med.*, 1877, No. 9) suggests the employment of subcutaneous injections of 0.5 grm. (gr. $7\frac{1}{2}$) curara in 5 grm. (ʒiv) water with the addition of two drops of hydrochloric acid. Eight drops of this solution are injected, in adults, at intervals of a week. In a number of cases in which this method of treatment was employed, a few weeks sufficed to bring about a marked amelioration in the epileptic symptoms.

x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, DECEMBER 22, 1877.

EDITORIAL.

ANTHROPOLOGY IN THE INTERNATIONAL EXPOSITION OF 1878.

TO medical men one of the most attractive features of the approaching Exposition at Paris will be the section devoted to anthropology. Under the auspices and personal labors of De Quatrefages, Paul Broca, and De Mortillet, respectively President, Vice-President, and General Secretary of the Anthropological Society of Paris, aided by Drs. De Rance, Topinaud, Duveau, Bertillon, Hayem, and other members of the Commission, it is expected that the exhibition of anthropological collections of all kinds will be so complete as to add much to our knowledge by affording opportunities for comparison never before offered.

It is greatly to be desired that American savans and physicians will not be behind-hand in contributing their share towards this result.

The Commission ask for—

1st. Crania, bones, mummies, and fragments, showing the comparative characters of both living and extinct American races.

2d. Instruments of peace and war, with descriptions or other portrayals of methods of teaching among primitive inhabitants.

3d. Relics, photographs, picture-drawings, sculptures, and models of prehistoric or ethnographic monuments.

4th. Geographic and other charts or tableaux, concerning ethnology, philology, medical geography, traditions, etc.

5th. Books, pamphlets, and periodicals on the same topics.

The medical profession of this country could, if it were so minded, secure the success of the American branch of the

anthropological section, and in so doing show to the European world the width of its culture and sympathies. We sincerely hope that individuals and societies will act in this matter. The details as to the ways of approaching the Paris Commission may be obtained from Dr. E. Seguin, No. 41 West Twentieth Street, New York.

OBSCENE LITERATURE.

OF all devilish trades the most devilish seems to be the systematic attempt at debauching the young men and women of a country, as it is carried on by publishers of obscene matter. The amount of work done may be surmised from the following list, from the Seventy-fourth Annual report of the English Society for Prevention of Vice, of books, etc., seized: "374,186 obscene prints, pictures, photographs, and negatives; 56,054 books and pamphlets, mostly illustrated with abominable engravings; 5 tons and upwards of letter-press of the same character in sheets, besides large quantities of infidel and blasphemous publications; 26,780 sheets of obscene songs, catalogues, handbills, etc.; 6840 cards, snuff-boxes, and other articles; 98 grossly obscene models, life-size, in wax; 844 engraved copper and steel plates; 430 lithographic stones; 159 wood blocks; 11 printing-presses, with all the tools and apparatus for printing; and 82 cwt. of type, including the stereotype of several entire works of the grossest immorality." Of course the publications which ran the blockade must have exceeded those captured, or the trade would not continue. We suggest that the whipping-post should be revived for the use of the utterers of such deadly poison.

THE ANNUAL REPORT OF THE SURGEON-GENERAL U.S.A. contains the usual information as to accounts, etc., besides some few facts that are of general interest. The disgraceful condition of the Pension

Bureau service shown in it demands instant remedy. Owing to the false economy enforced by Congress in the reduction of the clerical force, a year and a half's work has accumulated in answering applications for pensions. The fact that five thousand six hundred and fifty cases of wounds and injuries have occurred in the army in the year speaks volumes for the constant overstrain there is upon the small band of heroes who are so persistently persecuted by the American Congress. The present is supposed to be a time of peace, but in a single year one in every four men (accurately, five in twenty-one) has been wounded or injured.

The work upon the Army Reports and upon the Library appears to go on with unabated zeal and success, and we sincerely trust that no penny-wise-pound-foolish Congressman will be able to do injury to these departments during the coming session.

THE night medical service, whose organization in Paris we noted some months since, is working well. It will be remembered that the police authorities guaranteed the moderate fees agreed upon. It is stated that during 1876 the defaulting payments have amounted to less than two hundred dollars.

LEADING ARTICLES.

THE ABUSE OF THE FREE DISPENSARIES—A REVIEW OF THE FIELD.

IN my communication to the *Times* of November 10 it was stated that as yet no statistics of the attendance upon the free dispensaries had been made out for any of the American cities. Too late for the correction to be inserted, the *Boston Medical and Surgical Journal* for November 1 appeared, containing an abstract of a paper read before the Norfolk District Medical Society of Massachusetts by Orville Rogers, M.D., giving the attendance at the Boston dispensaries and hospitals during the year 1876. According to this

paper, 92,977 persons were treated gratis in that city. The population of Boston being somewhere in the neighborhood of 363,940, it would seem that over one-fourth of the whole population received free medical services during that year. The statistics published in the *Medical Times* made it evident that the number of persons treated at dispensaries and hospitals in that year and in this city was about twenty-three per cent. of the whole population. So it seems that medical charity is more abused in Boston than here. This may easily be understood when we note the startling fact that one institution alone—the Boston Dispensary—treated at its central office and in its districts no less than 48,739 persons during the year. A careful inspection of the Boston Dispensary report, published in the same number of the *Journal* with Dr. Rogers's paper, shows a total of 68,463 visits made by the 24,029 patients treated in the medical and surgical departments. This proves that the same proportion, of about one to three, holds, between patients and visits made by them, in Boston as in this city.

The publication of an abstract of my paper in the *Public Ledger* of this city elicited the fact that dental free clinics and dispensaries were afflicted in the same manner as were the medical charities. A "Retired Dentist," writing to the *Ledger*, complained that persons unquestionably able to pay their dentists' bills were in the habit of seeking admission to the free service of a dental college and so evading payment.

Within the past month or so quite an extensive literature has sprung up concerning the abuse of medical charities. In its issue of September 6 the *Boston Medical and Surgical Journal* entered into quite a rigorous and philosophical consideration of the much-mooted question, and the conclusion reached by the editors at that writing was clear and unmistakable. It was that medical charities in that city and elsewhere were the subjects of most flagrant abuse, and were most undoubtedly doing their best, unwittingly, perhaps, to pauperize the community. The writer of the editorial in question was not, however, at all sure in his own mind that he saw any immediate means of remedying the mistakes daily committed. As far as conviction went, the position of the *Journal* on September 6 was firm and unmistakable. Since

that time "a change has come over the spirit of its" lucubrations, and in the issues of November 1 and 22 the editors have been eagerly engaged in the unenviable process of swallowing their own arguments, so that at the latest hearing we are able to note statements somewhat as follows. The editors do not believe that, if dispensaries were abolished, the young practitioners would be benefited by the change, but that all the poor-practice would fall either into the hands of quacks, or into those of physicians of note. They hold that the poor are better treated at the dispensaries than they would be were the dispensaries abolished. It is affirmed that closing the dispensaries would put an end to the instruction of young physicians; that the poor expect the advice of a well-known physician in return for money; so that the young doctors would still have to treat them for nothing. Dr. Davy's advice is also quoted, to the effect that no man should begin the study of medicine with a view to practising who is not already wealthy enough to support himself without the aid of his patients' fees.

It is scarcely worth while to take the time to set down replies to each of these statements separately and in order, for if they were each and all of them unanswerable they would not in the least invalidate the strength of the main argument in the matter, which is that indiscriminate medical charity, as it exists to-day in all of our large cities, is fatally pauperizing the community, and so offering a most vicious example both morally and socially. When the *New York Medical Record* proceeded editorially to call the attention of its Boston cotemporary to the above lamentable state of things, the piteous answer came back somewhat as follows: "Well, we do allow that it is rapidly pauperizing the community at large; but, really, what remedy can you suggest to us? What can be done to put a stop to it?" So much for affairs in Boston.

In New York the flagrant abuses of free medical dispensaries have been long known and most deeply deplored. The *Record* has for six months, or so, been harping so steadily upon the one same string that it has at last thoroughly aroused the profession in that city to action. Various plans have been proposed for the correction of the evil, and a great deal of true enthusiasm shown in the cause of reform. At a

recent meeting of one of the New York medical societies, an interesting paper upon the much-debated subject was read by Dr. Gibney, and some very excellent advice offered as to the best means of placing medical charity upon a new and careful basis. Nothing definite has as yet been done, I believe; but when people once set themselves at work to thoroughly canvass the matter in their own minds, they have already advanced a long way towards a successful and feasible plan of concerted action.

I would like to call attention to a letter, published in this number of the *Times*, from Dr. Carter, resident physician at the Northern Dispensary. He attacks the accuracy of my figures (in the table published on November 10) with regard to the Northern Dispensary. In so far as he has set me right I am bound to thank him; for what I wished to reach was the truth of the case. I did not set out, as he supposes elsewhere in his letter, to array in the interests of reform an entirely fictitious and exaggerated list of cases. I contend, however, that my figures were those which any intelligent reader would have adduced upon careful examination of the printed report of the Northern Dispensary for the year 1876. In that report it states that the whole number of patients treated during the past year was 18,684. Some distance below this paragraph, and on the same page, I read that the number of teeth extracted was 1707. Very naturally, in making out the total number of cases treated, I added the 1707 to the 18,684, and got 20,391 as the grand total. Dr. Carter reminds me that the 1707 was included in the 18,684. I am very glad to receive this correction, and hope if I have fallen into any more unavoidable errors (for I cannot "go behind the returns") and reach conclusions different from those stated in the reports), such as the above, that the authorities of the other forty-three institutions mentioned in my table will hasten to set me right. Thus far none of them have questioned the accuracy of the figures. Dr. Carter further states that the 1707 persons who came to the dispensary to have their teeth extracted made but one visit, took away no prescriptions, and therefore could not have deprived the physicians of any patients; but that perhaps the dentists might have reason to complain. "Incidit in Scyllam," etc.,—

he is only throwing the burden off A.'s shoulder to put it on B.'s. These are just the cases to which the "Retired Dentist," who wrote to the *Ledger*, refers. The doctor states that there were no in-patients during the year 1876, while the printed report distinctly says that "the lying-in department had 79 parturients recommended to its care."

Again, Dr. Carter goes on to state that I have entirely overlooked the "probable repetition on the register by the same individual with a different disease," etc., and says that "until some method can be devised by which the real number of persons," and not cases, "can be discovered, the statistics are worthless." I can state, however, that I made numerous inquiries at dispensaries and hospitals, and found that the number of repetitions on the registers by the same individual was so small that it could with perfect propriety be omitted from consideration. I would, in passing, like to submit that the printed report of the Northern Dispensary states that during the year 1876, 18,684 *patients*, and not *cases*, were there treated, and that I, in my table, used the word *patients*, which seems to be synonymous with *cases*, and not the word *individuals*, in making out my lists.

The doctor further remarks that from what I had written one would be led to believe that all the cases applying at dispensaries for treatment were unworthy ones, and that such statements as mine ought not to be allowed to appear in a "semi-official" way, as they might furnish an excuse to contributors for withholding their contributions from charities so needy of constant support. Dr. Carter is to be admired for standing up and saying a brave word in behalf of his business while other resident physicians have sat still and remained altogether silent. Unfortunately, however, the doctor stands alone in his defence of the self-evident and universal abuse of the free dispensary system. No one would be so unthinking as to state that *all* the applicants for free medical treatment were unworthy of it; but that *very many* of them are, there cannot remain the slightest doubt. At one dispensary in London forty-nine per cent. of those attending its service were found to be impostors.

The abuse of medical charities in Philadelphia demands the immediate and thoughtful attention of the profession, and

of the whole community. A vast number of plans for the correction of the abuse have been proposed abroad and in New York,—provident dispensaries, home dispensaries, paid district visitors, etc. But one course of action has proved successful, and that is the shutting up of the dispensaries. Two hospitals in London have closed their out-door departments; and the Jewish Guardians of the Poor in that city have, after much deliberation, followed the same plan. It is very certain that even if every dispensary and hospital were closed the poor would still be attended to. No doctor would refuse to attend himself upon any poor person that should apply to him, or, at least, to recommend to this poor person some young physician of his acquaintance. Every one knows how very unsatisfactory to the attending physician are the vast number of dispensary cases. The disease has perhaps reached the most interesting and critical stage in its course, and the doctor is beginning to take much scientific interest in his patient, when suddenly he takes it into his head that he derives little or no benefit from that dispensary; so off he goes to the next. The doctor is not only unpaid, but is also prevented from studying thoroughly the results of his plan of treatment. Let me repeat: I say that *young physicians would be very glad to attend the poor and take the chances of a fee, and that they would undoubtedly prefer attending them at their homes rather than at the dispensaries, since they could thus study the particular diseases with much more profit and scientific precision.* This seems to be the conclusion of all thoughtful writers and thinkers upon the subject, both abroad and in this country. Much as Dr. Carter bewails such a course, the only efficient way of closing the dispensaries would seem to be that of demonstrating to their managers the true state of affairs, and requesting them in future to refrain from contributions. The fact is, that the dispensaries are not demanded by the times. In the earlier years of the city, when doctors were few and patients of moderate means had not as yet adopted the dispensaries as an easy means of economy, the case was different. *To-day the supply is running far in advance of the demand.*

As concerns the often-repeated assertion that the mass of the poor population deprived of dispensary advantages would but

gravitate into the clutches of quacks *et id omne genus*, it is simply untrue. There always have been, and always will be, individuals whose particular business and mission in this world seems to be that of allowing themselves to be duped and swindled upon every possible occasion; these form the quack's abundant harvest; but the vast majority of poor persons are too wise to be deceived, and possess quite as large a stock of common sense as their richer neighbors. Just as homœopathy finds most of its converts in the middle and upper classes of society because people in those classes are better able financially to be trying experiments, so the apostles of quackery are not by any means of necessity the exceedingly poor, but a strange medley, drawn together from all places and all orders, of the eccentric, dissatisfied, hypochondriacal, and unsettled elements of the community.

SAMUEL M. MILLER.

CORRESPONDENCE.

LONDON LETTER.

THE work of the winter session at the medical schools is now in full swing, and the total number of medical students is very satisfactory as regards keeping up the supply, while the matriculation examinations maintain the quality of this supply. Great competition exists amidst the different schools for students, and the pass-lists of the College of Surgeons are paraded conspicuously. It is a matter of thorough satisfaction to all men who love their profession to know that these "pass-lists" of the various schools are soon to be done away with, and that students will be taught their profession rather more, and somewhat less exclusive attention be paid to the mere percentage of passes at the year's end. A man needs something more than merely enough to scrape through the ordeal which meets him in the theatre of the College of Surgeons. And a rather imposing sight that theatre is when arranged for examination: splints, bandages, wooden amputating-knives,—so that a nervous examinee may not cut himself or somebody else,—surgical instruments of every description, and a whole mass of material to test the student's readiness of resource in emergencies, are there; all presided over by a tutelary genius,—Mr. Stone. Many hundreds of men when in that theatre have felt their hearts in closer propinquity to their mouths than strict anatomical accuracy would permit of.

The Nemesis of the furious anti-vivisection agitators has come in the form of a decided increase in the number of deaths from hydro-

phobia lately. We heard a great deal about the ill usage of the intelligent dog by the physiologists; huge posters were put up on hoardings, showing most valuable dogs being operated upon,—very different from the animals the grants for scientific research will permit of. The claims of the brutes to consideration were paraded far and wide, and man's comparative worthlessness was insisted upon. It has been said that if dogs had been let alone, and only cats, rabbits, guinea-pigs, and frogs been used, little would have been heard of the anti-vivisection outcry. But when affectionate females looked at their little four-footed pets and friends and began to conjecture their sufferings under the knife of the torturing physiologist, their feelings overcame them altogether. Of course the dog-stealer knows the value, real or supposititious, of these pets much too well to dream of offering them to the experimenter; but in ignorance of such facts the effusion of feminine sympathy flowed on vigorously. And now comes the turn of the tide. Is the life of a father of a family—of a bread-winner—to be at the mercy of a neglected cur every time that he goes abroad? Man is liable to meet a brute and after a severe fight get the worst of it, the animal escaping, while the man goes home to have his wounds dressed and cauterized, and then ultimately to die of hydrophobia, as actually happened to a poor clerk a while ago at Hampstead. And thus a family is reduced to the direst straits because there exists no machinery by which stray and ownerless curs can be prevented from endangering human lives. To my mind, this is putting human life at a needlessly low value; and a good many other people are coming to the same conclusion. It seems strange that the attached and numerous friends of the dog are unequal to the intellectual effort of inventing a form of muzzle which will not make the brute uncomfortable but which will prevent his biting. If the advocates of the dog would do this much towards easing the minds of those who are endangered by their fancy for the animal, there would be much more satisfaction felt generally. In the mean time the British Medical Association has made a liberal grant to a committee of scientific men of the highest eminence, to investigate hydrophobia. Probably the most interesting and complex phase of the anti-vivisection agitation is now being entered upon. Of course dogs must be used for the requisite experiments; and then it will be seen what their friends will have to urge against their being so used in order to see what may be done to protect man against the dog. It is too much to expect these infuriated agitators to recover their reason all at once; but time will tell how they are going to behave themselves, and whether they are able, or unable, to make a fair estimate of the comparative value of human and canine life.

A very ingenious little instrument was exhibited before the Harveian Society the other evening, viz., Dr. Reginald Southey's *trocar and tube* for tapping œdematous legs. It consists of a tiny trocar and perforated canula, which is inserted obliquely through the skin of the leg above the ankle-joint. The trocar is withdrawn, and then the fluid runs away down the tube freely,—indeed, in some cases in quite a little stream. The tube can be brought over the edge of the bed to a receptacle, and thus the bed be kept perfectly dry. Or, if the patient is sitting up, the tubes do away with those sodden bandages otherwise necessitated. What a boon this instrument is to the patient can be easily imagined by any one who has had experience of dropsical patients with either natural runnings of an eczematous nature, or who have had their legs punctured artificially. From the comfort side of the question they are invaluable. The testimony as to their efficiency was conclusive. It was even stated that they had succeeded in giving efficient relief where incisions had failed. Several members of the Society testified to their great utility, to the readiness with which they could be used, and to the fact that the punctures did not lead to sloughs or to gangrene. Indeed, the little instrument seems to be a most valuable aid to the treatment of persistent œdema of the lower limbs. Much, however, depends upon the association and relations of the œdema. It may be very gravely questioned whether tapping in any form does much good in pure cardiac dropsy, while it certainly, on the old plans, added much to the patient's discomfort. It must be admitted that the weight of the swollen limb causes much distress, and any means of getting relief therefrom would be readily accepted by the patient. But if no such relief is attained, and to the pre-existing discomfort is added that of saturated bed-clothes, then it is unfortunate that any operation has been attempted. On the other hand, where there is also long-standing kidney disease, and the arteries are tortuous and atheromatous, indicating the high tension to which they have been exposed, and the heart is enlarged and hypertrophied, though bearing evidence of no longer being in a state of structural integrity, then tapping the legs gives great relief. Old men even are thus often so relieved that they recover for a time, and are free from any œdema for months after the operation. Consequently, before deciding upon any form of tapping, it is absolutely essential to make an accurate diagnosis.

A case of the utmost importance to the whole profession, not in Great Britain only, but everywhere, was tried before Mr. Justice Hawkins, at the assizes at Northampton, on the 9th of November. It was a charge against a surgeon's assistant of criminal assault,—of rape upon a patient when under the influence

of chloroform. If there is a dastardly crime, it is to take advantage of a woman's helpless unconsciousness to violate her person. And so the magistrate thought, who sent the accused to jail on the 14th of September, declining to hear anything in his favor, and resolutely refusing to accept bail. The charge was that a married woman named Child went to the surgery of her family medical attendant to have her teeth operated upon. She had been there a day or two before, but the attempt to put her under chloroform then failed. A second attempt was rather more successful. She evidently had some peculiarities or idiosyncrasies in relation to chloroform, for he gave it for an hour and yet she was never sufficiently under its influence to admit of the operation being performed. She was accompanied by a friend,—a Miss Fellows. At the end of the hour Miss Fellows went out of the room and saw Mr. Child. In a quarter of an hour Miss Fellows returned. The prosecutrix maintained that on Miss Fellows's return she was quite conscious, but unable to speak. Finding it impossible to perform the operation, the accused accompanied the prosecutrix and her friend home. So far Mrs. Child had been unable to speak, but shortly after the accused left the house she complained to her husband that he had taken advantage of the absence of Miss Fellows to assault her criminally. Next day, when the accused called, he was told about what she had said, and he replied that she was laboring under a delusion. Under cross-examination Mrs. Child said that she told the accused that if he would admit the offence and quit the town (Birmingham) she would forgive him. This the accused declined to do, denying that he had committed any offence. He was then given in custody. The prosecutrix stated that the offence was perpetrated immediately after Miss Fellows left the room; that the prisoner went upon his knees and then assaulted her. Miss Fellows stated that on her return she found Mrs. Child in precisely the same position in the chair which she occupied when she went out of the room. Such were the facts of the case. It was quite clear that there had been either an assault committed, or that the woman was under the influence of a very pronounced delusion. The whole of the accused's conduct was in favor of the latter hypothesis. But in such a matter, where no third person was present, the statement of one of the two parties concerned must be taken. When a woman whose character was apparently without blemish (for in cross-examination no attempt was made to call her reputation in question) makes a definite charge against a man of assaulting her under circumstances which permitted of such an assault, the law could only send the case to a jury. In the mean time the unfortunate surgeon's assistant was sent to prison.

When the case came to be tried, a large num-

ber of medical men of repute came forward voluntarily to aid the accused's defence, and did this quite gratuitously. The chief witness for the defence was Dr. B. W. Richardson, F.R.S., whose celebrity is world-wide. As is well known, Dr. Richardson has studied anæsthetics very carefully and for many years. He stated that there were four stages or degrees in which chloroform operated. The first stage was that in which consciousness was not lost; there was resistance and a desire for air. In the second, consciousness is lost, but the operation is impossible, the patient screaming often without provocation. The third stage is that of complete unconsciousness and where all rigidity is lost. This is the stage which permits of operation. In his opinion the patient was in the second stage; the third never having been reached. He stated that in his own experience he had known persons in this second stage to have delusions as to what had taken place during that time. He related a number of cases, and stated that the fact of such delusions being induced by chloroform was one of the earliest objections raised to its adoption. He related one case where the patient, a female, was being operated upon by a dentist, and alleged that the dentist criminally assaulted her. And this she persisted in though her father, her mother, Dr. Richardson, and the dentist's assistant were all present throughout the whole time. She persisted in her conviction long after the effects of the chloroform had passed away; and Dr. Richardson said she was probably of that belief still. This evidence of Dr. Richardson's was corroborated by the experience of Dr. Hawksby, of London, and Dr. Saundby and Mr. J. F. West, of Birmingham. The judge asked the jury if it was necessary to sum up, and they replied it was unnecessary,—they were already agreed upon a verdict of acquittal. Mr. Justice Hawkins pointed out that such a verdict would not be the slightest imputation upon the absolute sincerity of the prosecutrix, who no doubt firmly believed every word of what she had said. He then congratulated the accused upon having had an opportunity of fully vindicating himself from the charge preferred, and said that the verdict of acquittal did not mean that there was insufficient evidence, but that the accused was entirely cleared of any imputation in respect to the charge preferred against him. There could be no doubt the prosecutrix labored under a delusion. The accused was then discharged from custody, having been in prison two months for no offence. It is not merely that this unfortunate man was imprisoned for two months for an imaginary offence, but that any man who is present when a woman is being put under chloroform is liable to have the same charge brought against him, that gives this case its gravity and importance.

Such being the case, it becomes necessary that a little more should be known amidst the

profession, as well as the laity, as to the occurrence of erotic sensations in woman. The subject is not a very pleasant one, but that is no reason why it should not be investigated. If it is a fact, and there is no doubt about this, that women when being put under chloroform are liable to those erotic sensations which they experience from sexual intercourse, the sooner the fact is generally known the better. It is just the mystery which surrounds such facts that permits such a monstrous hardship as that mentioned above to be a possibility at all. Of course it is obvious enough to any one that it is a delicate matter to inquire into the subjective sensations of women. But if these subjective sensations take the practical form of a charge of rape, two months in jail, and a trial by jury, they pass from the domain of sentiment and enter that of stern reality. Few, comparatively few, of the profession seem to be aware that women are subject to conditions and sensations identical with those associated with the sexual act, which arise quite subjectively and without any extrinsic stimulus. The delusion of St. Catherine that the devil visited her every night and enjoyed her person when she was asleep and could offer no resistance, is no unique experience, but one common enough to woman. Every one familiar with asylum work knows that a certain percentage of women patients have the delusion, among others, that the medical superintendent comes nightly to their bed and violates their person during sleep. Of course there is no foundation of any kind for such a delusion, except the subjective sensations of the woman herself. How strongly such a delusion, however, may be fixed in a woman's mind is evidenced by the case related by Dr. Richardson, where the woman persisted in her belief though her own father and mother as well as others were present, and where such assault was physically impossible. Such being the case, it behooves every man who is to be present with a woman when she is to be placed under chloroform to see that there is at least one other person present, and that, too, the whole time, without intermission, during which the woman is under the influence of chloroform, and that such other precautions be taken as will preclude the possibility of such a charge being raised. That Mrs. Child charged this unlucky man in good faith need not be questioned for a moment. She was far from being hostile to him, for she offered if he would avow his guilt and leave the town she would forgive him. The charge was not pressed from any rancorous spite; that is abundantly clear. But it is equally clear that something had occurred to that woman which she interpreted into the sexual act, and that this was so firmly fixed in her consciousness that it could not be dislodged. It becomes necessary then that the subjective sensations of woman should be investigated and made the subject of scientific observations, and see-

ing that they exist they must have a scientific value; and that no prudishness should prevent attempts being made to ascertain what the actual facts are, and what is their interpretation.

The question of the state of the heart of the late Miss Harriet Martineau has again cropped up. It is a notorious fact—for the good repute of the profession a sadly too notorious fact—that this lady in 1855 was told by leading members of the profession that her heart was not in its perfect integrity. She made her will, and prepared herself for sudden death at any moment. She was liable to attacks of palpitation and dyspnoea and of apparent failure of the heart's action, which caused her and her friends great distress. She was advised to try mesmerism, which gave her great relief. It was bruited about that a cure had been worked, and the mesmerists made good capital out of it. After twenty-one years' waiting, Miss Martineau did die at last, apparently from heart-failure. She was known to have had a tumor in the abdomen in 1855: it was found in 1877 to be an ovarian cyst. The heart, curiously enough, was not examined at the autopsy. It seems clear that the attacks from which Miss Martineau suffered in 1855, when she was about the menopause, were neural disturbances of the heart, due to the pressure of the cyst upon the pelvic organs; and that when the cyst escaped into the abdomen these reflex cardiac attacks ceased,—and mesmerism got the credit. The presence of a large cyst in the abdomen prevented the descent of the arched diaphragm, and so the lady was scant of breath on exertion. The diagnosis of fatty degeneration in 1855 was of course an erroneous one. The case shows, what is not uncommon, that a person may suffer at one time from disturbance in the heart, and die ultimately of heart disease, and yet there be no connection betwixt the two.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, OCTOBER 11, 1877.

The PRESIDENT, DR. H. LENOX HODGE, in the chair.

Bean removed from external auditory meatus.
By Dr. CARL SEILER.

MAGGIE E., aged 12, applied to me for relief. She complained of deafness and pain in the right ear. On questioning, she and her attendant said that about eighteen months ago her hearing had become bad, and that the pain had only been felt for the last four months. On examination I saw a hard white body filling the entire meatus externus with the exception of a small slit-like opening near the top of the inner wall.

Before proceeding to remove the obstruction I questioned the patient closely as to the time when she had put the foreign body into her ear. She, however, denied all knowledge of having put anything into her ear at any time.

In trying to remove what afterwards proved to be a bean, I found the forceps of no avail, and had to resort to a hook the point of which was strongly curved while the body of the instrument was but slightly bent. With this instrument, which was made at the time out of a hair-pin, I was enabled to pass through the narrow opening and behind the bean, and then by pulling upon the hook a very little force sufficed to dislodge it.

After the removal of the bean the canal was found to be but partially filled with dry cerumen and epithelial scales, while the tympanum presented the bright-red appearance of a tympanitis.

Cancer of the stomach. By Dr. E. T. BRUEN.

M. McD., æt. 50, Irish, laborer, was admitted to the Philadelphia Hospital, August 8, 1877. When admitted he stated that his family were all healthy people, and that he himself had enjoyed exceptional immunity from sickness until three years ago. At that time he noticed that whenever he ate articles of food which were difficult to digest, he would vomit two or three hours after eating. He had other dyspeptic symptoms at intervals, but, as he was careful about his diet, he did not vomit as much for a year previous to the date of this history.

About three months ago he commenced to be troubled with constipation and a feeling of soreness over the abdomen.

On admission, he was noticed to be emaciated, and his face had a pale cachectic hue. The lungs were healthy; a systolic murmur was heard at the base of the heart transmitted towards the epigastrium, and the veins of the neck were observed to pulsate violently. It appeared that the murmur was due to some tricuspid regurgitation.

On examining the abdomen, a tumor was felt in the epigastrium, extending three inches to the left of the median line and about four inches from the edge of the ribs on the left side of the chest. The tumor appeared to be superficial, but by depressing the abdominal wall it was found to extend deeply into the cavity of the abdomen towards the back. The tumor pulsed with the cardiac action, and on auscultation a murmur could be detected, which was increased by pushing the stethoscope deeply into the centre of the pulsating area, which was about two (2) inches in circumference; there was no thrill, and the pulsation disappeared when the patient assumed a position on the hands and knees. But little dulness could be detected on percussion over the tumor, and that only when the abdominal walls were deeply depressed. A slight murmur could be heard along the course of the

aorta by auscultation over the back. The tumor was hard, no nodulation could be felt, but the rigidity of the abdominal muscles prevented further localization of the mass.

The temperature during the first four weeks after his admission ranged between 100° F. and 102° F. No albumen could be found in the urine. He complained bitterly of severe dull pain in the epigastrium and lumbar region, the pain in the back being especially severe. He was constipated most of the time he was under my care, but occasionally he had diarrhœa for a few days. No vomiting occurred while he was in the ward, but his diet was restricted, and principally liquid.

He gradually emaciated, and died from exhaustion, October 9, 1877. His temperature, however, was normal for several weeks before his death, and the tricuspid murmur had disappeared.

Post-mortem twenty-four hours after death. Extreme muscular rigidity. Examination of chest revealed heart and lungs to be healthy. Tricuspid and mitral valves normal.

On opening the abdomen, the stomach was found extremely dilated, occupying the left hypochondriac region. The hard mass felt during life was seen to be connected with the stomach. The transverse colon and pancreas were found adherent to the greater curvature of the stomach, which was the seat of cancerous disease, apparently scirrhous.

On opening the stomach along the greater curvature, a cancerous mass as large as an orange occupied the posterior wall and lesser curvature, extending from within two inches of the cardiac orifice, towards the pylorus, which was also the seat of cancer. The portion around the pylorus was hard and smooth, but on the posterior wall lobules extended from the mass into the cavity of the stomach. The surface of the large mass occupying the posterior wall was softened, and the mucous membrane covering the posterior wall of the stomach was very much softened. Portions of the mass were friable. On the anterior surface of the anterior wall of the stomach small nodular masses the size of peas were found scattered, but apparently in the line of the lymphatics. The liver and kidneys were healthy. The mesenteric glands were very generally enlarged to the size of large peas. The spleen was of normal size, but its capsule was the seat of calcareous degeneration, and a tendency to lobulation of the spleen was observed.

Remarks.—This tumor during life very often simulated aneurism, but was differentiated from it by the absence of murmur when the position was changed, and the absence of pulsation when the patient was on the hands and knees. The dyspeptic symptoms, however, the cachexia, emaciation, and constipation, pointed to cancer, and the location and superficial character of the tumor pointed in my mind to cancer of the walls of the stomach. I would call attention to the temperature as an unusual

feature of the case. Wunderlich says that temperature above 100° points against a diagnosis of cancer; though recently I noticed a case of cancer of the liver with a temperature above 100° F., rising at times to 103° F.

The *post-mortem* threw no light upon the cause of the tricuspid murmur.

It is interesting to note that although this tumor was really so deeply seated it appeared superficial, and the absence of dulness was explained by the dilated condition of the healthy portion of the stomach. It was thought at one time that enlargement of the left lobe of the liver would explain the tumor; but absence of dulness in the epigastrium set aside this theory. No microscopic examination has yet been made, owing to the recent date of death of the patient, but I would desire to have the specimen referred to the Committee on Morbid Growths for their consideration.

Report of the Committee on Morbid Growths.—"A microscopical examination of the new formation developed in the stomach, presented by Dr. Bruen, shows the globular, polyp-like elevations situated at the pyloric region to consist of villous prolongations, covered with columnar epithelial cells, growing in every direction. From such an arrangement of elements the growth may be considered a cylindrical epithelioma.

"November 8, 1877."

Medullary sarcoma. By Dr. F. H. GROSS, for Dr. JAMES COLLINS.

The specimen of medullary sarcoma which it is my privilege to exhibit to the Society for my colleague Dr. James Collins was removed from a young patient at the German Hospital, by amputation of the left arm above the condyles of the humerus.

From the notes kindly furnished me by Dr. C., who regrets that they are somewhat meagre, I prepare the following history of the case:

Samuel S. R., aged 8 years, of healthy American parentage, sustained in the latter part of November, 1876 (nearly eleven months ago), an injury to the forearm while in bed. He was treated for some time by a neighboring apothecary with lotions and liniments, but without any improvement.

The doctor's attention was first called to the case early in February last, when he found a tumor of the size of an egg occupying the middle of the ulna, and which seemed to clasp the ends of an ununited fracture of that bone. This enlargement was held to be an excessive mass of vitiated callus. As the surroundings of the little patient led to the belief that he could not be properly treated at home, Dr. C. strongly urged the lad's parents, who were poor, to send him to a hospital, in the hope that a useful hand might be preserved. But this advice was not then acted upon.

A few weeks later it was noticed that the growth was rapidly increasing in size, that the superficial veins of the forearm were becoming

very prominent, that the part was severely painful, and that the general health of the patient was becoming somewhat impaired. There was, however, nowhere in the limb any evidence of glandular enlargement.

It was now held to be a sarcoma, and, as the disease was becoming constantly more aggravated, the patient was finally, on the 3d of October, after the repeated advice of Dr. Collins, admitted into the German Hospital, where, two days later, that gentleman amputated the arm above the elbow, in the presence of several members of the hospital staff and the resident physicians.

Up to this time, the sixth day after the operation, the patient continues to do very well.

The amputated portion of the humerus, and the hand, which were not involved, have been disarticulated from the diseased forearm. The tumor, which measured in its greatest circumference fourteen inches and in its length seven inches, has been bisected longitudinally. The portion here presented has been preserved in a solution of hydrate of chloral, and the other half is being prepared for microscopic study.

Dr. C. expresses his indebtedness for the note, which I copy below, from Dr. S. W. Gross, who saw the case and examined the specimen:

"The section of the tumor was six inches long by four and a half inches broad at its widest part. The growth had developed at the seat of fracture of the ulna, which was about midway of the bone, and was evidently periosteal in its origin, although fully one-half grew from the outer surface of the periosteum. At the point of fracture were numerous flattened, radiating spiculæ of bone. The upper and lower epiphyses of the ulna were not involved.

"The whole appearances of the tumor were those of encephaloid or medullary sarcoma. The brain-like tissue, more especially the central portions, was very soft, and easily broken down. It was the seat, here and there, of calcareous degeneration and cystic transformation, and pervaded, particularly at the lowermost portion, by injected vessels and hemorrhagic deposits.

"From the history of the case, and from the gross appearances of the tumor, I have no hesitation in pronouncing it a small round-celled sarcoma."

Report of the Committee on Morbid Growths.

"The specimen presented by Dr. F. H. Gross, and referred to the Committee on Morbid Growths for examination, presents the structural arrangement and elements of a round-celled sarcoma. A thin section demonstrates the new formation to consist of round, lymphoid cells, with scarcely any visible intercellular substance. The blood-vessels are seen to be simple channels through the cells of the growth.

"November 8, 1877."

REVIEWS AND BOOK NOTICES.

CUTANEOUS AND VENEREAL MEMORANDA.

By HENRY G. PIFFARD, A.M., M.D., and GEORGE FOX, A.M., M.D. New York, William Wood & Co., 1877. 32mo, pp. 301.

This little volume, intended as a *vademecum* for the student, contains a large amount of valuable information stowed away within very small compass. It opens with several short chapters on the anatomy, physiology, pathology, symptomatology, diagnosis, nomenclature, and classification of diseases of the skin. Following these are a series of concise descriptions of the individual diseases, this portion of the book taking up 176 pages. The remainder is occupied by chapters upon gonorrhœa, gleet, complications of gonorrhœa, chancroid, bubo, syphilis, and the treatment of syphilis. These are very satisfactory, and in fact form, we think, the most valuable portion of this compendium. Its usefulness is unfortunately impaired by the adoption of a nomenclature of skin diseases in many respects widely different from that which is accepted by the majority of instructors in this country. The attempt to make a hand-book or compendium the medium for the propagation of new views or nomenclature and classification is a mistake, and in the present instance mars what would otherwise be an admirable little manual.

A. V. H.

A GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By ROBERT FARQUHARSON. Enlarged and adapted to the United States Pharmacopœia. By FRANK WOODBURY, M.D.

This is one of those adaptations which our atrocious copyright laws allow publishers to have made to order out of the mental offspring of any unfortunate English author. Commencing usually in piracy, we could but wish that these enterprises would end in pecuniary loss; but unfortunately they usually bring no such well-deserved fate upon their publishers: indeed, out of them men have grown rich. We have sufficiently noted the peculiarities of the original English work, and it only remains to say that Dr. Woodbury has acted judiciously in adding accounts of various remedies employed in this country but not mentioned in the original treatise, and also in making sundry other minor additions.

SALICYLIC ACID IN ACUTE RHEUMATISM (*The Lancet*, October 13, 1877).—Dr. Whipple reports at length an extremely interesting case of acute rheumatism complicated by pericarditis and broncho-pneumonia, which was relieved at once, when the patient was apparently dying, by salicylate of sodium, after failure of a fair trial of the alkaline treatment. The remedy was given in twenty-grain doses every two or three hours.

GLEANINGS FROM EXCHANGES.

TREATMENT OF CATARRHAL AFFECTIONS OF THE RESPIRATORY PASSAGES BY PULVERIZED CARBOLIC ACID (*The Practitioner*, October, 1877).—Dr. Moritz, in a communication made to the Medical Society of St. Petersburg, states that he employed pulverized carbolic acid in the spring of last year in the treatment of catarrhal affections, and that he was led to its use by observing that having had occasion to use carbolic acid spray extensively, he had himself escaped any catarrh. The strength he employs is two per cent. He tried it first on two children who were supposed to be suffering from the commencement of an attack of whooping-cough. In the course of a few days the slight catarrh disappeared. In several cases where children were suffering from scarlet fever, the cough, which was present at the outset, diminished, and the nights were rendered more calm. The application of the spray, however, was not well borne by two patients suffering from phthisis, one of whom had large cavities in his lungs. The author explains the beneficial action of carbolic acid by supposing that many cases of catarrh are of an infectious nature.

SUBCUTANEOUS INJECTION OF CARBOLIC ACID FOR PHTHISIS AND TUBERCULOSIS (*The Practitioner*, October, 1877).—Schnitzler states that he has made experiments with the subcutaneous injection of carbolic acid in upwards of one hundred cases of phthisis and tuberculosis. The strength of the solution was from one to two per cent. The results were diminution of the febrile symptoms, more tranquil breathing, lessening of the feeling of weight and uneasiness, and, when the remedy had been employed for some time, diminution of the night-sweating. The amount injected was one or two Pravaz-syringefuls every or every other day.

VENOUS PULSE IN CHLOROFORM-NARCOSIS (*The Practitioner*, October, 1877).—L. Noël calls attention to the fact that a venous pulse is observable in both the external and internal jugular veins in every case of chloroform-narcosis. In some instances it commences with the first inhalations, but it is not usually well marked till anaesthesia is fully pronounced, and it becomes most marked just before the patient awakens from sleep; at this period the pulsations can occasionally be followed into the subclavian, and even into the facial veins. Each pulsation consists of a double vibration, the acme of the wave immediately preceding the radial pulse, and the greatest degree of flaccidity immediately following it. The pulsations are often very considerable, yet they can scarcely be felt with the finger. Central compression of the vein prevents the pulsation, but distal compression is without effect. The whole phenomenon lasts at its acme for from ten to fif-

teen minutes, and then gradually subsides, disappearing altogether in the course of half an hour. Age and sex appear to have no influence on it. M. Noël endeavors to explain it on the ground that the right heart and the two venæ cavæ become over-distended with blood towards the completion of narcosis. As is shown by the frequency of fainting at this stage, the right auricle cannot entirely empty its contents into the right ventricle, and there is consequently a certain amount of reflux.

ULCERATIVE ENDOCARDITIS (*The Boston Medical and Surgical Journal*, November 15, 1877).—Dr. Calvin Ellis reports at length a case of ulcerative endocarditis followed by embolism of the arteries of the left leg, and on which he makes the following remarks:

Though we are there informed that hardly two cases are known which resemble each other completely, our case illustrates so many points mentioned in the general history of the disease as to make it profitable to call attention to them, particularly as the affection is quite rare. The two forms described, the typhoid and the pyæmic, are both represented. The pain and prostration were followed by rigors, and these by the clear indications of local embolism. We had at first integrity of mind ending at last in delirium and coma; marked prostration; rapidity of respiration, contrasting strongly with the absence of all appreciable lesion of the lungs; a high pulse and temperature; rigors repeated frequently, regularly and irregularly; a cessation of the same towards the close; albuminuria, which we are told hardly ever fails; an enlarged spleen; the absence of any complaint of subjective cardiac symptoms, and of physical signs, which has been noticed even when ulceration has occurred, though physical signs are generally found. Vomiting and diarrhoea, which are common, were wanting in our case.

In regard to diagnosis, it is stated that ulcerative endocarditis can be rarely recognized with certainty. It is either entirely overlooked or only suspected. In our case an accurate diagnosis was impossible until the obstruction of the circulation occurred. There may be local cardiac signs which render the diagnosis very probable, but where these fail the disease is liable to be confounded with typhoid and intermittent fever, or other conditions. Though the rigors often recur irregularly, perhaps several times a day, they may be so regular as to simulate those of intermittent fever, while the enlargement of the spleen may also suggest typhoid. If, however, we bear in mind the apyrexia of intermittent fever and the regular course of the temperature in typhoid, we shall be much aided in diagnosis. But the most important point is the previous history of the case. Though recovery is not impossible on theoretical grounds, no case of the kind is known.

SUPPURATION OF THE BURSA PATELLÆ (*The British Medical Journal*, September 29, 1877).

—A woman, a month after confinement, had, without apparent cause, been attacked with inflammation and subsequent suppuration of the bursa patellæ. She had continued to get about as long as possible, but, after three weeks' illness, was obliged to seek medical relief, and was admitted to a hospital. It was then found that not only had the bursa suppurated, but that suppuration had extended to the cellular tissue around the joint, and the skin and cellular tissue around were involved to a considerable extent. At first glance, the joint appeared to be involved; but, on careful examination, and from the history of the case, it appeared probable that the synovial sac might be free from injury. Free incisions were made in various directions into the suppurating cellular tissue, a poultice was applied, and the joint was kept at rest by tying it up in a pillow. There were no signs of inflammation of the veins of the leg. The incisions all healed up, and the joint is found to be free of disease.

In another case of inflammation of the bursa patellæ following a blow, the sac was opened freely as soon as an increase of heat and redness, with a rise of the temperature to 102° Fahr., indicated suppuration. The patient was thus saved from the complications met with in the former case from neglect of surgical treatment.

MONOBROMATED CAMPHOR.—Great difficulty is often experienced in dispensing this useful remedy. According to M. Lepage, the following plan is advantageous:

Dissolve the monobromated camphor in six times its weight of almond oil by the aid of a gentle heat, emulsify the oily solution with gum arabic, and then suspend it in syrup or in water, according to the indications of the prescription. The emulsions obtained were as perfect as those with almond oil alone.

In consequence of the instability of the oil used as a solvent, the emulsion should be prepared as required: the monobromated camphor, however, appears to keep without undergoing any decomposition, even after an interval of three months.

To emulsify seven grammes of the oily solution, containing one gramme of the active substance, the author employs three grammes of powdered gum arabic suspended in double its weight of water. When the emulsion has been made, the necessary quantity of syrup or water is added in the usual manner.

SIMPLE ULCER OF THE STOMACH (*The Medical Record*, November 3, 1877).—Two hundred and fifty-two cases of this disease have been personally observed by Lebert; in one hundred and four the history has been detailed, and in thirty-three an autopsy has been obtained. The ulcer is most frequently secondary to a local hemorrhagic infiltration with circumscribed interruptions of the circu-

lation and formation of a scar; but there are also superficial ulcerations, hemorrhagic erosions of the mucous membrane, follicular ulcers, and inflammatory ulcerations, more extensive and deep than erosions. The frequency of the gastric ulcer varies much, according to the country or locality of a country. On an average they are not found in more than four per cent. of the autopsies. At Breslau it was found in two per cent., and was about one per cent. in the clinic and polyclinic cases. Simple ulcer of the stomach comes on sometimes without appreciable cause, sometimes under the influence of a general anæmic or neuropathic condition: hence the frequency of this lesion in chlorosis, which is often enough rather the effect than the cause. The principal clinical forms of simple ulcer are:—1, the acute, with perforation of the stomach, and fatal diffuse peritonitis; 2, the hemorrhagic form, with severe hæmatemesis; 3, the scorbutic, which is a variety of the former; 4, the dyspeptic, resembling gastric catarrh, but more painful; 5, the gastralgic, with predominance of painful paroxysms; 6, the vomitive; 7, the cachectic, possibly simulating cancer. In this latter condition there may be stricture of the pylorus with dilatation of the stomach. Vomiting of fresh or blackish blood occurred in four-fifths of the cases, and was the cause of death in three per cent. of those observed at the clinic. Perforation of the stomach was the termination in three and a half per cent. of the clinical cases,—in the female chiefly between puberty and thirty, in the male after thirty. This malady, even in its favorable terminations, has an average duration of from three to five years at the least. It may also be latent, cicatrization and cure occurring almost without symptoms.

There was a fatal termination in eight per cent. of the clinical cases. This rarely occurred during the first year, more frequently during the second and third, but if the disease progressed steadily the fatal tendency increased with the years. Recurrence of the disease is not uncommon, but if there has been a long period of good health intervening, the prognosis is good. When a gastric fistula forms externally the prognosis is not very unfavorable; but if it be gastro-pulmonary or gastro-colic, a fatal result will ensue usually, if not always. In treatment Professor Lebert has had greatest success from a milk diet. Even after the attack has passed away the patient should still have a carefully-regulated regimen, and should only gradually commence upon mixed food. Constipation should be combated with aperients, of which aloes is the best. Subnitrate of bismuth and nitrate of silver are also useful; but there is no specific treatment, and attention must be directed towards the individual symptoms.

THE medical class of the University of Edinburgh now numbers 920.

MISCELLANY.

WE would call attention to the advertisement of *Parrish Hall*. There seems to be a need of such an institution, and the names of the physicians attached would seem to be all the guarantee of excellence that could be asked for.

GRANULATED SUGAR.—E. W. Runyon asserts that white granulated sugar is very often adulterated with ultramarine, sulphate of tin, alum, etc., in order to neutralize the yellow tint of imperfectly-refined sugars. The practice is known among refiners as adding the complementary color.

Unquestionably, ultramarine adulteration is chemically injurious, being decomposed by fruit or organic acids, with evolution of sulphuretted hydrogen, which produces a disagreeable taste. When made into syrup, these sugars are said to betray themselves by imparting a yellow color or very dull appearance to the liquid.

On November 30 died Dr. Edward H. Clarke, of Boston, in the fifty-ninth year of his age. Graduating in the University of Pennsylvania, Medical Department, 1846, he soon became inseparably connected with the medical teaching of Boston, and in 1855 was elected Professor of *Materia Medica* and Therapeutics in Harvard University,—a position he filled with the utmost brilliancy until forced by ill health to retire in 1872.

A LARGE mushroom is said to have forced its way through twelve inches of concrete covered with a thick layer of asphalt, in the floor of the savings-bank department of the General Post-Office in London.

ARTICHOKES are good for rheumatism; and hearty jokes are good for dyspepsia.—*The Doctor*.

NOTES AND QUERIES.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—I desire to make a correction in regard to the number of patients accredited to the Northern Dispensary, as given in the table in the article on Free Dispensaries, in the *Medical Times* of November 10; also, some remarks on the article.

The last annual report of the Dispensary gives the *total* number of patients for last year (the largest since its existence) as 18,664. This number includes 1707 cases of teeth-extraction,—a class of patients making but one visit and receiving no medicine, consequently not detracting from the business of physicians; although *dentists* may find cause for alarm in these figures. There were no *ward* cases. We therefore have remaining 16,957 cases, instead of 20,391, being 3493 less than reported in the table. From this number a very considerable deduction should be made on account of probable repetition on the register during the year by the same individual with a different disease, a point which the writer has evidently not considered.

For instance, it is *possible* for a child or other member of a family to come under the care of the Dispensary during the inclement season with a bronchial or other affection, and similarly during the summer with some disease incident to that season, every time a cure being effected. Each time the name would, very properly, be entered on the register and count as a new patient, being actually a new case of disease.

Practically, we may thus have quite a number of patients counted at the Dispensary out of an individual or family

during the year, making the number of *individuals* applying for aid much below the number of patients or cases recorded.

Until the writer of the article devises some plan by which he can ascertain accurately the actual number of *individuals* visiting our Medical Charities, such an array of statistics given to institute a comparison with the total population of the city is worthless.

It is a pity to allow such one-sided statements to appear in a semi-official character, because when copied in the public journals they furnish an excuse for the withholding of contributions to benevolent objects in these times of urgent need.

If we give credence to the conclusions of the writer, we must discredit the able annual reports of the State Board of Public Charities, and be forced to believe that *all* assistance and endowments, both public and private, to our hospitals and dispensaries have been grievous mistakes.

Adopting the standard of the Committee in New York, on a similar subject, given in the same number of the *Times*, my own observation leads me to believe that there are a larger number of families in the city in need of medical aid than apply for it.

The actual distress and suffering among the poor is not to be met by wholesale denunciation. Rather let those interested in this subject devote their spare time to ascertaining the proportion of unworthy recipients of medical charity, and by their endeavors to suppress abuses assist in the just distribution of that aid which must be extended so long as "the poor" we "have always with" us.

Very respectfully,
CHARLES CARTER, M.D.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 2, 1877, TO DECEMBER 15, 1877.

WOLVERTON, W. E., MAJOR AND SURGEON.—To accompany four companies of 7th Cavalry detached for field duty. S. O. 169, Dakota, December 5, 1877.

WATERS, W. E., CAPTAIN AND ASSISTANT-SURGEON.—To accompany battalion 2d Artillery from Carlisle Barracks, Pennsylvania, to Texas, and, upon completion of this duty, report to the Commanding General of that Department for assignment to duty. S. O. 246, A. G. O., December 5, 1877.

KIMBALL, J. P., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and assigned to duty at Fort Columbus, N. Y. H. S. O. 250, A. G. O., December 10, 1877.

LORING, L. Y., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended five months. S. O. 243, c. s., A. G. O.

PATZKI, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months, with permission to go beyond sea. S. O. 243, November 30, 1877.

DICKSON, J. M., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Klamath, Oregon. S. O. 171, Department of the Columbia, November 20, 1877.

FINLEY, J. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for two months' extension. S. O. 221, Department of the Missouri, December 6, 1877.

TURRILL, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at these Headquarters. S. O. 201, Department of Texas, November 30, 1877.

HALL, W. R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Stevens, Oregon. S. O. 168, Department of the Columbia, November 15, 1877.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 275, Division of the Atlantic, December 11, 1877.

NEWLANDS, W. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at San Diego, California, and to report in person at these Headquarters, for assignment. S. O. 153, Division of the Pacific and Department of California, December 3, 1877.

SHUFELDT, R. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Omaha Barracks, Nebraska. S. O. 141, Department of the Platte, December 10, 1877.



PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 5, 1878.

ORIGINAL COMMUNICATIONS.

ON THE TREATMENT OF DIPHTHERIA BY LARGE DOSES OF CALOMEL.

BY M. C. REITER, M.D.

A VERY considerable number of the younger physicians of Pittsburg having formed themselves into a club for mutual improvement, under the title of "The Academy of Medical Science," they took up the subject of Diphtheria for discussion at their last regular meeting.

Being known to differ *in toto calo* as to its nature and treatment from my confrères, I was kindly invited by a good friend and member, Dr. James McCann, to be present at that meeting.

A paper was read by Dr. Smith on this disease, in which he adopted the popular and prevailing opinion as to etiology and treatment. When he had done, I was invited to address the society, and did it; but so disconnectedly and lamely that I feel constrained to arrange my views in order, so that my position may be clearly defined and substantially stated.

In the epidemic of diphtheria of 1863, it was my misfortune to have my first severe case in the person of my grandchild and namesake, a boy of two and a half years. The mischief fixed itself on the Schneiderian membrane of both nostrils, reaching into the pharynx. Inside of forty-eight hours, the common treatment then in vogue being followed, the entire surface became gangrenous. The glands in the neck became enormously swollen, and the poor boy died "none too soon." In watching this case, I became convinced that the disease is not a *poison* of the blood or in the blood, but an excess of *fibrin*, called, in old times, the inflammatory diathesis.

The glandular swellings are not diphtheria, but a sequence, the fibrin having not only transuded but mechanically closed the capillaries; gangrene or else a slough ensues; and these glands are poisoned, as other glands are, from a virus conveyed to them by the lymphatics in the structure; as fatally killed and lifeless as a crushed hand or foot over which the wheels of a railroad-train have passed.

I have never yet seen glandular enlargement usher in an attack of diphtheria. On the contrary, the transudation has changed from a clear white to a dirty gray, a portion has been thrown off with the epithelium, and some underlying tissue has putrefied, before adenitis manifested itself.

Many years ago—I am now a physician of many years' active professional life—I became dissatisfied with the old combinations of nitrat. potass., calomel, and ipecac in treating the inflammatory diseases incident to the mountain region in which my lot was cast, and, after bleeding and cupping, had trusted to large doses of calomel alone, with either liq. ammonii acetatis or potassii bicarb. in interval.

The readiness with which patients take this tasteless stuff called calomel, and the satisfactory results from its administration, have, year by year, moulded me into a calomel doctor. The sad, melancholy, and heart-rending scene of "Willie Winkie's" last hours made me *vow* I would give calomel largely to my next diphtheritic patient.

The cases reported need no comment; they are accurately given; but the *modus operandi* of calomel, for which I had conjured up a hypothesis, is now clearly demonstrated in the invaluable work of that profound and industrious physician of London, Dr. Murchison. His teaching is not only making the pathway to success more plain and clear to the faithful and earnest student in the art of healing, but he is casting a grand halo of glory on his profession. His last work, "Functional Diseases of the Liver," *has solved every obscurity in understanding* how calomel cures diphtheria. I would say to every young physician embarked in the perilous enterprise of fighting disease, *Read this book, STUDY THIS BOOK*, ponder its doctrines, and pray Almighty God, the source of all light, truth, and power, to enable you so to appreciate its teaching that you may go forth to your fearful, solemn, and responsible work at the bedsides of the suffering, armed with the panoply of truth, and with a bold and fearless heart.

Those who oppose the doctrine and resist my conclusion may say, "Have you never given quinine, iron, stimulants, beef-tea, etc., in diphtheria?" I say, emphatically, "*No!*" I have relieved patients suffering from the sequelæ with this plan of treatment, as I have treated successfully

nephritis or phrenitis following scarlatina with venesection and other antiphlogistic remedies.

One case reported, No. IV., followed No. III., and the subject was the servant-girl in the family. Her throat was intensely red, without any tumefaction. A spot of exudation, very thin, was on the right tonsil; but the history of the case shows she had hot skin, a small, frequent, quick, and hard pulse, and complained of distressing pain in occiput and down the spine. I feared the force of disease was tending to the meninges of cerebellum and cord, and, confident in my sthenic conception of diphtheria, I bled her to syncope, and gave calomel as narrated. On the fifth day of convalescence I was sent for to treat acute rheumatism of the right wrist, which yielded to acetate of ammonia, tr. rad. aconiti, and colchicum vin. (British), together with a dose of pil. mass. hydrarg. cum comp. extract. colocynth. in thirty-six hours.

To all who will try this plan I would only say, give calomel freely and boldly every hour until the intestinal discharges resemble the fresh-water polyps in water-troughs, gelatinous, and of a bright dark-green hue; then your patient is safe; and, if you fear salivation, administer a dose of castor oil. I have never seen ptialism in a single case, and seldom give any laxative. The calomel purges, but not excessively, even in children of three or four years who have taken a half-ounce. Should prostration follow these heavy doses, you can rely on the fact that you have been mistaken in your diagnosis, and pronounced a case of follicular tonsillitis diphtheria, and can quit your remedy without any serious results. Cases I., II., and IV. show this fact clearly.

I insist on giving calomel in ice-water in summer, and cold water in winter. Fill a teaspoon half full of water, and drop the powder in it; get the patient to open the mouth, and tumble it in; then wash down with fresh water.

Calomel should be given in its purity.

The hypothesis which I had adopted for years was as follows. The functions of the abdominal organs in inflammatory diseases were suspended for want of an influx of the *vis vitæ*, which was largely eliminated by the breaking down of tissue, which is rapidly destroyed in disease. The resulting compounds which should be thrown off by the liver, kidneys, and intestinal mucous surface were retained in circulation, and then

became poisonous blood-elements, fearfully increasing the danger of the sufferer. I supposed each particle of calomel to exercise the power of the point of a needle on the electric fluid, and attracting vital force to restore functional activity.

This may be called a mysterious hypothesis. To the student of natural science profound mystery attends every step of his progress. Catalysis is certain, but very mysterious. Optics demonstrates that we never see anything, but discern an image on the retina of our eyes. No study is so awfully mysterious and strangely perplexing as the minute anatomy of the ear. What was it sat in the cochlear and semicircular canals in Mozart's and Beethoven's ears, and interpreted the impressions made by the aqua Cotunnii on the gossamer threads of the auditory nerves, woven into a film and suspended there? Science leads to mystery deep, unfathomable, and awful. I knew an old veterinary surgeon for many years, and have seen him cure relaxed and distended capillaries in the conjunctivæ of horses' eyes, remaining after the reduction of acute conjunctivitis, in a few hours, by blowing calomel under the lid from the cylinder of a goose-quill.

Calomel should be given in large doses, and repeated every hour until the bile in the defections assumes the appearance described. Then you are done with it, and run no risk of ptialism. When given at long intervals you do not secure free and frequent evacuations, and it may have had the specific effect you desire long before you can discern it. A liver relieved and acting healthfully and vigorously, portal veins readily emptying their contents into this organ, may be attended by lively action of the lacteals, which would convey calomel into the blood.

I permit my patients to take cold water and lemonade *ad libitum*, and insist on their drinking frequently mucilaginous fluids. I prefer barley gruel, but give gum-arabic water, flaxseed tea, and slippery-elm water, and nothing else,—*no food whatever*. During convalescence in the feeble I give small doses of quinia. With the calomel I give every third hour chlorate of potash. It has never done injury, but I doubt if it is useful.

The metamorphoses which are brought about by and in the liver, as shown by that excellent compilation of experiments and their results, published by Dr. Murchison,

make it very easy to understand how a liver, to-day ceasing to destroy fibrin, may in a few days hence permit the blood to be surcharged with lithic acid, as happened in Case IV.

I have notes of many cases recorded, but have only transcribed as many as I thought needed to explain my hypothesis.

Case I.—September 23, 1863, 11 A.M., was called in consultation with Dr. Robinson to see the daughter of Mr. Beatty, aged 3 years, who became ill the day before. She was a beautiful child, fair hair and blue eyes, with good organization. Countenance was distressed; almost perfect aphonia; respiration slightly stridulous; pulse small, hard, quick, and frequent; the whole fauces of a bright red, and covered with slight patches of exudation. The doctor had given a very unfavorable prognosis (had only seen her a few hours previous to my visit), in which I concurred, as the mischief had fixed itself mainly in the larynx. His treatment was five grains of potass. chlorat. in solution every third hour, and pencilling throat with solution of nitrat. argenti in glycerin. I prevailed on the doctor to continue his treatment, and give ten grains of calomel in a little ice-water, and repeat five grains every hour until we should meet again the next morning. Diet: cold water, lemonade, and barley gruel.

September 24, 10 A.M.—Met the doctor, and found our patient very much improved; voice almost restored: had two dejections; continued treatment.

September 25, 10 A.M.—Patient cheerful and bright; voice restored; pulse soft and natural; no prostration; respiration normal. Continue calomel every third hour until stools appear like polyps in water troughs. Add syrup senegæ to potass. chlorat. solution to relieve cough.

September 26, 10 A.M.—Patient took castor oil at night, when stools manifested characteristic mercurial action. Had taken four drachms calomel, and no prostration. Is now a vigorous young lady.

Case II.—July 24, 1865, 11 A.M., was hurriedly called to see a child of John Eicher. I could not go,—was an invalid, and had been already overworked,—but got Dr. James McCann to visit it, and promised to see it myself in the afternoon. Dr. McCann reported that the father, who went out with him, said they had buried an elder child one week before from diphtheria, and that the babe (eight months old) was now suffering from the same disease, and the attending physician pronounced the case hopeless. The child was well formed and nourished; pulse small, tense, and so frequent I could not count it; respirations frequent, difficult, attended by croupal noise; and at intervals there was a short, hoarse, expulsive, breaking cough. The skin

was damp, face pallid and rather bluish in hue; the countenance had a worn, exhausted expression, and the eyes dull. The fauces had a glossy-red appearance, and the left tonsil had a diphtheritic film. Ordered three grains calomel every hour; potass. chlorat., $\mathfrak{z}\text{i}$; aquæ destillat., $\mathfrak{z}\text{iii}$. M. A teaspoonful every three hours, and throat to be pencilled with nitrat. argenti, $\mathfrak{z}\text{i}$; glycerin, $\mathfrak{z}\text{i}$; barley gruel or gum water and ice water *ad libitum*. When I proposed to Dr. McCann, in the afternoon, to visit this child, he protested; told me I had better spare my strength and visit hopeful cases. I told him I had promised, and would go. Found the case as hopeless as the doctor had depicted it, and had no expectation it could recover. Doubled the calomel powders and gave six grains every hour. Continued other treatment. I found the spoon daubed with calomel; ordered another, and showed them how to give the powder. And this is important. A spoon half full of water, powder dropped in the water, and then tumbled into the open mouth. Then give a drink of water to wash it down. In this way it escapes the lips and teeth, and the whole dose is swallowed. It does not touch the spoon, and therefore cannot adhere to it.

July 25, 8 A.M.—Patient much improved; eyes bright; countenance calm, except when it coughs; then expresses pain. Cough still croupal; respiration slower, fuller, and freer, and some mucus in trachea when it coughs; pulse 130, fuller and softer; bowels have moved twice; dejections exceedingly offensive and black; throat not so red, and exudation passing away from left tonsil.

5 P.M.—Patient doing well. Two dejections since morning; dark green and oily; not offensive; think fetor in first was owing to putrefied caseine. Give three grains instead of six grains of calomel every hour. Up to this time this infant of eight months had taken one hundred and sixty grains of calomel.

July 26, 9 A.M.—Improvement very marked. Child inclined to be playful. Slept well all night; had to be waked to administer medicine. Respiration almost normal; pulse 110; skin natural; cough still troublesome. Bowels moved three times; dejections watery and very green. Fauces very much better. Give calomel every fourth hour, and potass. chlorat. in interval. Give beef broth, without fat.

July 27, 9 A.M.—Improvement manifest. Respiration perfectly free, but cough somewhat annoying, yet not frequent. Bowels moved three times,—a dark clear green, consisting of gelatinous masses. Omit calomel, and give ol. ricini, $\mathfrak{z}\text{ij}$. Continue potass. chlorat. every four hours, and give gtt. xv. in interval, of syrup. polygalæ senegæ.

July 28.—Cough better; patient doing well. Continue treatment.

July 29 and 30.—Convalescence progressing happily.

This child was brought to the office about

the third week of October, and an abscess was opened at the angle of the left jaw, which discharged laudable pus and soon healed. Dr. McCann reported this case at the time, and I have considerably cut his report, but cannot avoid quoting his remarks on it in full:

"In this case, a babe eight months old, which appeared moribund on first and second visits, took at the rate of $3\frac{27}{8}$ grains of calomel every hour for sixty-eight hours, and instead of exhaustion the load was rolled off the vital organism, and it steadily attained its power and force of healthy vitality. In this case, as indeed in all the other cases we have noted, there was never a sign of mercurialism, no pytalism, no ulceration of the mouth or throat, and, judging by the *physique* of the child when last seen, no injury had resulted to its organism from mercury or disease. Thus the bugbear of the injurious effects of mercury on the system may be laughed at as utterly ridiculous."

Case III.—Thursday, September 13, 1877, 9 A.M.—Saw a female child of J. Yarnells, aged 5 years,—a family in which I have been the sole physician for twelve years. Found the child feeble, with hot skin, frequent but feeble pulse, complaining of great soreness in throat; no glandular enlargement. On inspecting fauces, saw the tonsils thickly covered with a white exudation, which extended over palate, velum palati, and pharynx. The tonsils had the appearance of two small hard-boiled eggs with shell removed. On inquiry, learned the patient had been ill since Monday. Gave a fatal prognosis, and prescribed tonics, stimulants, etc., to support against gangrene of fauces, which I felt certain would occur. On visiting her in the evening, found parents much rejoiced at apparent improvement. Some portions of exudation had come away, one-fifth inch in thickness. Dr. McCann was with me, and I had intended to experiment with bichloride of mercury; but the doctor wisely admonished me not to change treatment in a case which, to an enlightened medical observer, must inevitably prove fatal, when the parents believed the patient improving on the remedies administered.

On the following morning, September 14, the patient was moribund, glands of neck immensely swollen, breath had a gangrenous fetor, extremities cold, pulse could not be counted, and she died at noon.

Case IV.—At ten o'clock on Tuesday, October 2, 1877, was called to see the housemaid in same family, aged 17 years, and of a vigorous organization; had but lately come from England. Had felt unwell for several days, but had worked until the afternoon, when she told the lady she could not work any more, but must go to bed. Found her with flushed face, hot skin, anxious countenance; complains of soreness in throat and severe pain in head, especially in occiput, ex-

tending down spine. Has aphonia; can only speak in whisper; pulse small, tense, quick, and 136 in minute. Tongue furred; throat of an intense glossy red, and a thin patch of diphtheritic exudation on right tonsil; pain from this tonsil extends into right ear.

Bled her to syncope (twenty-four ounces), gave twenty-five grains of calomel, and in an hour twenty more, then ten grains every hour; if she complains of weakness, extend to three hours. Give ten grains of potass. chlorat. in solution every third hour, and nothing to be taken but lemon water, cold water, and barley gruel.

October 3, 10 A.M.—Pulse 100, fuller, and softer; slept so comfortably since 4 A.M. that powders were given only every third hour. Bowels moved but once, although two drachms of calomel have been taken, and there is no prostration. Feels much better; very slight pain in head, voice improved, and film leaving right tonsil, but face is still too red. Continue treatment; if bowels are not moved at noon, give a teaspoonful of magnes. sulphat. in a cup of cold water. Eight P.M., condition comfortable; pulse 90; face paler; bowels moved once since she took the salts. Continue treatment.

Thursday, October 4, 10 A.M.—Had a good night; pulse small, quick, and frequent,—a mercurial pulse I call it. Bowels had moved thrice, but the discharge, in color and consistence, did not warrant the omission of calomel. Continue treatment; touch right tonsil with solution of nit. argenti in glycerin, $\frac{3j}{\text{ss}}$ to $\frac{3\text{ss}}{\text{ss}}$. The exudation has passed off, and epithelium with it. Ordered the stools to be carefully observed, and if the bile floats in dark, bright-green gelatinous masses, abandon calomel and give ol. ricini, $\frac{3\text{ss}}$.

Was sent for to visit patient at 9 P.M. Messenger said that patient had been unable to swallow anything since 5 P.M. When I saw patient, found her and friends much alarmed, but she had comfortable skin, pulse, etc. Suspected the diphtheritic inflammation had reached upper portion of œsophagus and loss of epithelium had induced spasmodic constriction of circular fibres,—the same condition I had once combated in an old lady who had swallowed her tea too hot. Called for a cup of warm gruel, and urged the patient to fill her mouth and make a strenuous effort to swallow it. She succeeded so well that the contents of the cup were soon transferred to her stomach. This difficulty of deglutition passed away in two days. Finding in dejections characteristic bile, omitted calomel and ordered ol. ricini, $\frac{3\text{ss}}$. Continue potass. chlorat. and touch tonsil, then pass brush into œsophagus.

October 5, 10 A.M.—Patient comfortable; all symptoms favorable; only complains of something in throat annoying her like a foreign body, but not painful. On inspection, saw that the uvula was about the size and

shape of a marble and had the appearance of a vesicle of water. Ordered it to be brushed frequently with a large camel's-hair pencil moistened with red-pepper tea. May take beef broth.

Saturday, 6th, 9 A.M.—Patient quite well; palate nearly normal in appearance and size. Ordered one and a quarter grains, thrice daily, chlorat. potass. to be continued.

Sunday, 11 A.M.—Patient had some pain in wrist and shoulder of right side during night. Room has no fireplace, and nights are cool and weather damp. Prescribed blue mass, \mathfrak{ss} , and comp. ext. colocynth., \mathfrak{ss} , to be mixed and divided into four pills, to be taken at once. A half ounce spts. Mindereri, ten drops of wine of root of colchicum (British), and four drops of tinct. rad. aconiti, to be taken every three hours, and painful parts to be painted with Churchill's tinct. iodine.

Monday, October 8.—Patient to resume quinine. Rheumatism all gone; take Mindereri mixture thrice daily. In a week from this she went to her parents' home (thirty miles by railroad), and has been well ever since.

PITTSBURG, December, 1877.

A MACHINE FOR PREPARING PLASTER BANDAGE.

BY W. G. WEAVER.

I DO not propose to enter into a discussion of the merits of the plaster-of-Paris bandage. Its adaptability as a fixed dressing in fractures, caries of the vertebræ, etc., has not only been demonstrated by its author (Sayre), but also by Prof. Agnew, who has used it extensively, and by many other surgeons, who give it the first rank among surgical applications for the above conditions of injury and disease.

The objection which I have heard urged against it is, that it is so tedious and disagreeable a process to prepare the bandage for use,—to cut the bandage first (for the crinoline will not tear), and, secondly, to rub the plaster into the meshes of the crinoline. Any one who has used the dressing very frequently must admit the force of this argument.

Realizing very strongly this objection to an otherwise almost perfect splint, and having quite frequently the necessity upon me to prepare the bandage, I several months ago, while resident physician in Wilkesbarre City Hospital, set about a plan for obviating this objection to the dressing, and of discovering a speedy mode of manufacturing the bandage when needed.

The machine which I had constructed for the purpose, and which has given perfect satisfaction both in and out of the hospital, I have concluded, at the solicitation of those who have examined and pronounced upon its merits, to describe for the columns of the *Medical Times*.

It consists of two uprights two feet high; a base twenty inches long. The uprights are five inches apart on the inside. There are four rollers, two of which are seven-eighths of an inch and the other two one and a quarter inches in diameter, and four and seven-eighths inches long on the inside, so as to permit their revolving without friction. The upper one is placed four inches from the top, the periphery reaching one-eighth of an inch over the median line, while the second one is placed just below it, with its circumference just touching the median line of upright.

Eight inches from the top is an iron frame, five by four inches, in which rests a tin hopper of the same dimensions at the top, but three inches by one-sixteenth of an inch at the bottom. The hopper is five inches deep. Two inches below the bottom of the hopper is the circumference of another roller, the periphery of which rests one-eighth of an inch over the median line. Just below this, and to the left, so that the right circumference just touches the median line, is another roller. Three inches below the circumference of the lower roller is an iron crank passing from upright to upright. On the base-board rests a tin box twelve inches long, five inches wide, and two and a half inches high. This has a tightly-fitting lid, which slides in a groove, so as to render it *air-tight* when closed. In this box the plaster is kept when the machine is not in use.

In preparing the bandage the crinoline is cut (by an instrument yet to be described) into slips of the proper length and width; the initial end is placed through the rollers at the top, drawn down the median line through the hopper, on through the second set of rollers, and then fastened to the crank. The *air-tight* box at the bottom, in which the plaster is kept, is now opened, the hopper is filled, and the bandage is rapidly wound.

It will be seen that the first rollers tend to keep the bandage smooth and stretched, the bandage is saturated by the plaster in

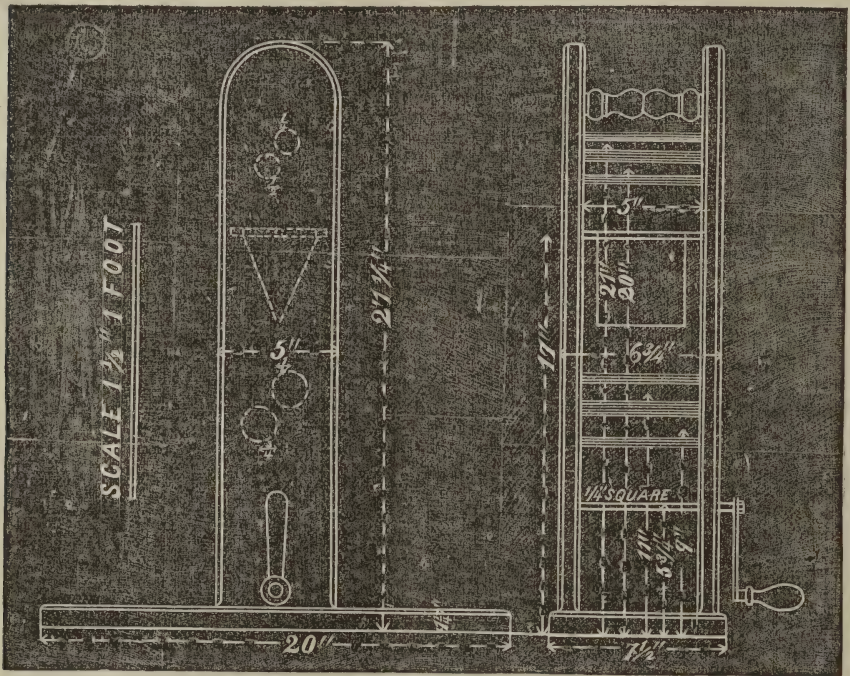
its passage through the hopper, and the second set of rollers gather in what plaster has fallen from the bandage and through the hopper, by means of which the bandage is completely filled and packed with the plaster.

The crank is now removed, and the bandage is ready for immersion into cold water and immediate application to the fractured part. Nothing could be simpler, nor could anything more perfectly accomplish the object.

When it is desired to use the machine

it I have been able, without the slightest difficulty, invariably to remove the splint by merely *unwinding* it.

The material which I have used in the construction of this apparatus is black walnut. It can be made up, with all the appurtenances which I have named, for less than five dollars; and probably few instruments known to the surgeon will give more satisfaction than this, as it enables him to prepare in a rapid manner the most useful and perfect fixed dressing ever brought to the notice of the profession.



for rolling the common bandage, the hopper can be removed by partly revolving it, when it can be lifted out. It is made thus so that it can be lifted out without being unnecessarily far from the upper rollers.

As the crinoline will not tear, it is a tedious process to cut it for use. To obviate this objection I have constructed a knife which is placed on the top of the machine. The knife contains a slide which regulates the width of the bandage. It can be accurately and rapidly cut by merely pulling the crinoline through the slide.

It has been taught that in removing the plaster splint it is necessary to cut it with scissors. This I have found to be a mistake. By applying *warm* water freely to

A CASE OF POISONING BY SMALL DOSES OF GELSEMIUM.

BY WHARTON SINKLER, M.D.

At the present time, when gelsemium is so much used in the treatment of neuralgia and other nervous disorders, I think the report of the following case, in which a very small dose of the drug caused toxic symptoms, will be of interest:

Mrs. T., æt. 49, has suffered from neuralgia of the fifth nerve on the right side for the past three years. The pain has lasted during the fall and winter months with great severity, but she has been free from it during the summer. I was called to see her on November 13, 1877, and found her suffering acutely from the pain in her face. It had begun about

three weeks previously, and since then the paroxysms had been almost constant, preventing sleep or rest. The pain was marked in the inferior dental and infra-orbital branches of the fifth. The patient was unable to open her mouth, on account of its bringing on a paroxysm, and she had been unable for several days to take any nourishment except in liquid form. Her general health was good, and her appearance indicated good nutrition.

I ordered fluid extract of gelsemium, five drops, three times a day. I saw the patient about ten days later, and she said that the pain was no less, that the medicine had caused dimness of vision after each dose, but no other symptom. She was directed to continue to take the gelsemium, and to take in addition five grains of sulphate of cinchonidia three times a day.

Two days later I was called to see her, the messenger saying that she was "very ill, and sinking." I found the patient lying on a sofa, unable to sit up or to move at all. The extremities were cold, the pulse small and feeble, respirations sighing and jerky, pupils dilated, and the eyes suffused. There was paralysis of the bladder, the urine dribbling away constantly, and although there was general muscular enfeeblement it was most marked on the right side, in the arm and leg. The family said that the symptoms first appeared the day previous, but only to a slight degree, but they had become rapidly worse since morning. She had taken the gelsemium three times the day before and once that morning. They were sure that not more than five drops had been given at a dose. I at once ordered potassii bromid., gr. xv, and morphiae sulph. $\frac{1}{2}$ gr., every two hours, and of course a discontinuance of the other medicines.

In a few hours the patient was much relieved, and the next day was able to sit up and walk about the room.

I now found on close inquiry that from the first dose of gelsemium it had produced loss of power in the bladder for an hour or two after each dose. There was frequent desire to urinate, but inability to hold the water.

I may add that the neuralgia was in no way modified even when the toxic effects of the drug were the most manifest, although in a few days, under the use of cinchonidia, the pain became much less, and the patient far more comfortable.

The preparation used was Hance's fluid extract of gelsemium. I ordered f $\overline{3}$ ss, and had what was left measured by the druggist who dispensed it, and found that there were f $\overline{3}$ iii remaining, so that but f $\overline{3}$ i was taken during the two weeks that it was administered.

The effect of the remedy varies much in different individuals. In one case recently

under my care the patient took gtt. xiv of a reliable fluid extract three times a day, with the result of only slight dimness of vision. In the case of Mrs. T. I account for the excessive action of the drug by the fact that the preparation was very strong and that she had taken little or no food for several days.

The strength of different fluid extracts of gelsemium also varies, and my experience in the above case, as well as in another where very unpleasant symptoms were produced by doses of seven drops, leads me to advise that no larger dose of this preparation than three drops should be given until its effects are observed.

1534 PINE STREET, PHILADELPHIA.

ON DIALYZED IRON AS AN ANTIDOTE IN ARSENICAL POISONING.

BY RICHARD V. MATTISON, PH.G.

THE recent case of arsenical poisoning reported by Dr. T. B. Reed in the *Times* of the 8th ult., and the successful treatment with solution of dialyzed iron, from its great clinical interest in partially establishing a fact, prompt me to give a few additional notes on the subject, the results of analyses completed November 7 of the current year.

The following is a partial résumé of the analytical testimony, a full account of which may be found in the January number of the *American Journal of Pharmacy*:

Preliminary to the thorough treatment of the subject, a careful test for the presence of arsenic was made of all the reagents and glass-ware used in the experiments, with negative result, no trace of arsenic being found: then—

a. Ten centigrammes of arsenious acid were dissolved in twenty-five cubic centimetres of distilled water and tested for arsenic, abundant evidence of which was readily shown. To this solution five cubic centimetres of a five per cent. solution of dialyzed iron were added, and the whole diluted with distilled water to the measure of one hundred cubic centimetres, and filtered. No apparent change was effected, the filtrate giving abundant evidence of the presence of arsenic.

The above experiment was again performed with the substitution of ordinary water, with like result.

b. A like quantity of arsenious acid was dissolved in the same amount of distilled water as before, and to this a few drops of hydrochloric acid were added. To this solution five cubic centimetres of solution of dia-

lyzed iron were added, the whole filtered, and the filtrate tested as before, with like result.

This experiment was then varied by the substitution of ordinary water and the addition of first one cubic centimetre of the iron solution, and afterwards the addition of twenty-five cubic centimetres, and dilution of the whole with water to the measure of one hundred cubic centimetres.

The various testings were without change, the abundance of arsenic being readily shown.

c. A third experiment was now instituted. Ten centigrammes of arsenious acid being taken, as before, and dissolved in the same quantity of water, this was added to one thousand cubic centimetres of a solution made to represent the gastric secretion of the human stomach, and composed as follows:

Solution representing normal gastric juice.

Water	994.40
Pepsin	3.19
Sodium chloride	1.46
Potassium chloride	0.55
Calcium chloride	0.06
Magnesium phosphate	0.12
Hydrochloric acid	0.20

To the quantity of the above (one thousand cubic centimetres) the solution of dialyzed iron was added, and the colorless filtrate tested by Fleitmann's and Marsh's tests. No evidence of the presence of arsenic could be detected, and the experiment was then repeated, with a like result.

The experiment was then varied by dissolving fifty centigrammes of arsenious acid in the above quantity of the artificial gastric juice and allowing the whole to remain at a temperature of 38° C. (100° F.) for two hours, with occasional agitation. The mixture was then transferred to a filter, and one hundred cubic centimetres of the filtrate evaporated to five cubic centimetres, and this added to a Marsh's apparatus of one hundred cubic centimetres capacity, without the slightest trace of arsenic being shown on the application of the test.

This experiment was then repeated with both Fleitmann's and Marsh's tests without a trace of arsenic being obtained.

After the repeated unsuccessful attempts to detect the presence of arsenic in this way, one drop of liquor arsenici chloridi was added to each flask (still containing the filtrates as above described), and the result was immediate, the presence of arsenic in considerable quantity being instantly shown by the characteristic reactions.

Since these experiments prove that solution of dialyzed iron has no action on arsenious acid except under certain conditions, the following facts seem clearly set forth:

1. That dialyzed iron, to be of value as an arsenical antidote, must be first precip-

itated by the action of some neutral or alkaline salt.

2. That this precipitation and the consequent production of ferric hydrate are accomplished when this preparation is taken into the stomach; and that, therefore,

3. The solution of dialyzed iron is a valuable antidote for arsenical poisoning, and should be administered promptly in cases of emergency as a temporary antidote, followed of course by emetics.

Now, it may readily be conceived that an antidote may be necessary in cases where the enfeebled stomach of the invalid may not be able to secrete sufficient gastric juice to precipitate the iron, even under the stimulus of the poison, or that the arsenic may be ingested into a healthy stomach entirely free from any gastric secretion.

While under these circumstances the secretion of mucus would perhaps prevent absorption for a certain length of time, yet in these cases, and indeed I believe in *all* cases, notwithstanding the exceedingly favorable result obtained by Dr. Reed with his patient,—a healthy young woman,—the administration of dialyzed iron as an antidote for arsenical poisoning should be followed immediately by a teaspoonful or more of common salt, thus insuring the formation of the ferric hydrate and the consequent neutralization of the poison. This should at once be followed by an emetic, as the action of the ferric hydrate on the arsenic is not to coagulate it, as Dr. Reed infers, but to form a perfectly definite chemical salt known as the arsenite of iron (ferric arsenite), which, although practically insoluble, is far from being harmless.

One word more, and I am done. Though physicians may be readily excusable for not being familiar with the chemistry of the various compounds entering into their daily practice and prescriptions, yet if it is worth while to learn at all the constitution of any compound, it is far better to learn the truth than any supposititious or interested statement. In perhaps twenty or more medical journals I have seen the statement made by Dr. Reed, viz., that "dialyzed iron is a solution of peroxide of iron in the colloid form, with *perhaps* [italics mine] a trace of hydrochloric acid," or, as others put it, "a solution of pure peroxide of iron in the colloid form in pure water."

This error originated in this country with a single firm of manufacturers, and has been most industriously circulated by them, and, as far as I know, by them only, with the exception of the various medical journals above referred to. Again and again I have noticed the statement, reflected and refrained from its correction, but the time has certainly arrived when the composition of this remedy should be generally known.

It is, then, simply an oxychloride of iron (ferric oxychloride), of variable composition, represented by the formulæ $\text{Fe}_2'''\text{Cl}_6$, $7\text{Fe}_2'''\text{O}_3$, to $\text{Fe}_2'''\text{Cl}_6$, $23\text{Fe}_2'''\text{O}_3$; in other words, a variable preparation containing from seven molecules of ferric oxide to one of ferric chloride, all the way up to twenty-three molecules of ferric oxide to one of ferric chloride. The preparation of ferric oxychloride known as "dialyzed iron" must contain a notable quantity of hydrochloric acid, or it cannot exist, this acid not existing in a free state, but combined as ferric chloride.

The tincture of ferric chloride (U.S.P.) contains a large excess of free hydrochloric acid; and it is probably this to which the preparation owes its value in many instances.

Dialyzed iron, on the contrary, is simply a more basic salt, free from the excess of free acid, and only differs from the official ferric chloride in this respect.

It should be remembered, then, that dialyzed iron is no novelty, but has been known for twenty years, and sold in the American market for at least fifteen years; that it is *not* "a soluble ferric hydrate," nor "a soluble peroxide of iron in the colloid form," but simply a soluble ferric oxychloride, and that its use in arsenical poisoning should be immediately followed or preceded by the administration of sodium chloride and followed by emetics, and that only under these circumstances can it be recommended, to borrow the appropriate words of our friend Dr. Reed, as a "safe, reliable, always-ready-at-a-moment's-notice remedy and antidote for arsenical poisoning."

332 NORTH FRONT ST., PHILADELPHIA.

DEATH OF PROFESSOR WUNDERLICH.—The death, at the age of sixty-two, of Dr. C. A. Wunderlich, Professor in the University of Leipsic, and director of the Medical Clinic of that place, is announced.

NOTES OF HOSPITAL PRACTICE.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF NEW YORK.

CLINIC OF ALFRED L. LOOMIS, M.D.,

Professor of Pathology and Practice of Medicine,
Oct. 8, 1877.

A COMPLICATED CARDIAC CASE.

WE have here, gentlemen, a man of middle age, who gives us the following history in answer to our inquiries. He always enjoyed excellent health (not remembering any previous illness whatever) until the early part of July last, when he went out target-shooting, and, being overheated, took a cold drink, which had the effect of suddenly checking perspiration. He tells us that he had been accustomed to shooting at distances of 200, 500, and 900 yards, and that he had always been able to hold the rifle steadily; a point of some interest in connection with the case. Pursuing our questioning, we learn that he first had a chill, followed by fever; and when I ask him what followed that, he replies, naïvely enough, "The doctor." It seems that he was confined for eight or nine weeks to the house, and a great part of the time to bed. He says that he suffered most from fever, which came on about three times a week and was usually preceded by a chill. He also had some pain in the left side, which ran around towards the back. He positively denies having had rheumatism either at this period or any time previously, but says there was some swelling of the ankles, which, however, was unaccompanied by any pain or redness, while there was no swelling at all in any other part of the body. He has had a cough almost ever since the commencement of his illness, and he describes the expectoration accompanying it as being "like oysters." Furthermore, the sputa not unfrequently contained blood, which was for the most part in small masses and of a dark color. He never spat up any bright-colored blood. He makes the remarkable statement that he has lost fifty pounds of flesh since he has been sick. For many years he was accustomed to drinking large quantities of lager beer,—five, six, ten, and sometimes even more glasses daily. He has scarcely taken any at all during his illness. He cannot walk now nearly as well as formerly, and always gets very short of breath in going up-stairs.

(Three students being now called into the amphitheatre, Prof. Loomis asked the first one what he thought was the matter with the patient, after hearing the above history; when he replied that he thought it probable that he originally had intermittent fever, and that he was now suffering from some trouble with the lungs.) Now, first, as to the intermittent fever. The man tells us that he resides in Williamsburgh, and that while they do have chills and fever in some parts of the town, there is none at all in the particular locality where he lives. You will find it exceedingly common when you ask patients if there is intermittent fever in their neighborhood for them to reply they don't have any *just* there, though they do have it a little ways off from there; and perhaps you can hardly call it lying, it is so natural to say it. Well, I think we will have to admit that our patient has had intermittent fever. But now as to the trouble with the lungs: what would you suppose to have been its nature? Student: "Pleuritic." Why so? "On account of the pain on the left side." What other causes besides pleurisy might we have of pain seated here? "Disease of the heart, pleurodynia, intercostal neuralgia, aneurism." If it was pleurisy that he had, do you think the shortness of breath of which he complains to be due to some remaining effusion? "Yes." Does a man have spitting of blood from pleurisy? "Sometimes." From what source is it then derived? "The small bronchial tubes." Would the blood from them be of a bright or dark color? "Bright." But here, you see, the blood is dark-colored. Can you tell me in what diseases the blood expectorated is dark and in small masses? "Capillary bronchitis, I think." In capillary bronchitis a man has no business to have bloody expectoration at all. In phthisis the blood coughed up is always bright-colored, and it comes in the early stages from the capillary bronchial tubes, and in the later stages, when there are cavities, from the rupture of blood-vessels. But how about heart disease? You know that the color and character of the blood in the sputa is one of the distinctions between diseases of the lungs and heart. In those of the heart the blood is dark in color and found in small masses, resulting from infarctions in the lungs due to obstructed circulation. Presumably, then, we have here some affection

of the heart, and perhaps we can arrive at the diagnosis before examining the organ. There is nothing characteristic about the pulse, however, in this case, since it has neither the jerking character of that usually found in aortic, or the indistinctness of that of mitral disease. We have some guide in the swelling of the ankles which has been noted, and which we found was not due to rheumatism; but now let us strip the patient, without further conjecturing.

On inspection we at once notice three points which are certainly sufficient to direct our attention to the heart,—viz., epigastric pulsation, abnormally large area of impulse, and throbbing of the carotids. The apex-beat is found to be about an inch and a half below and a little to the left of the nipple, and on placing the hand upon the chest-walls it seems very indistinct; so that it is almost impossible to feel exactly where the impulse strikes, its force being diffused over such a large space. We have in the first place, then, a confused apex-beat, extending to the left of the nipple, to the right of the median line, and down to the epigastrium. Among the causes of epigastric pulsation may be mentioned enlargement of the right side of the heart, pulmonary emphysema, and any abnormal growth which presses the heart over towards the centre of the thorax. This confused apex-beat probably indicates hypertrophy with some dilatation of both sides of the heart. Now what do you hear on auscultation in this case? (The first student, after making use of the stethoscope, stated that he heard a murmur whose greatest intensity was at the base, and which was conveyed downward, accompanying the first sound of the heart; so that he attributed it to aortic insufficiency with consequent regurgitation. Prof. Loomis, however, showed him that if there were aortic regurgitation he must have mistaken the second sound for the first, since it must invariably accompany the *second* sound, because it comes with the closure of the valves. The second student said he heard a basic murmur synchronous with the second sound; while the third said he heard a murmur as distinctly at the apex as at the base, that it occurred after the first sound and before the second, that it seemed to be conveyed to the left of the apex, and that he attributed it to mitral regurgitation.) Now let me tell you what I hear. First, there is a distinct murmur

at the apex, which is conveyed to the left, and which has been rightly attributed to mitral regurgitation. Then at the base there is a murmur heard with the first sound and conveyed upward, and, in addition, another murmur, which is heard with the second sound and conveyed downward. So that we find our patient suffering from mitral regurgitation and both aortic obstruction and regurgitation.

One interesting feature about this case is that the patient has not had rheumatism. What then was the starting-point of the cardiac trouble? The history is a very indefinite one, so that we cannot derive very much information from that. He says that in the commencement of his recent attack he was treated for inflammation of the lungs; but this statement certainly seems open to some question. On a physical examination of the lungs I notice a very slight difference in the percussion-note on the two sides, and in both I hear sonorous and sibilant râles scattered through them, and also some few crepitant râles at the base; which signs are to be regarded as due to the obstruction in the circulation. It seems more than likely, I must say, that the case commenced with some other disease than inflammation of the lungs. But whatever may have been the nature of the acute attack, the heart disease may have existed for some time before this. If it did not, its course has certainly been extraordinarily rapid. I regard it as altogether more than probable that he had an endocarditis some time previous to the illness that came on in July. It is by no means a necessity that a patient should suffer from rheumatism in order to have this affection. In those who are accustomed to drinking freely, rheumatic endocarditis not infrequently occurs without any other rheumatic trouble, and oftentimes with really no symptoms whatever. But if the valvular trouble existed previously, it must undoubtedly have been greatly increased by his recent attack. By the malarial fever from which he seems to have suffered there was probably caused great engorgement and severe bronchitis, with an unusual amount of pulmonary œdema; and to this malarial attack we are forced to look for the rapid extension of the cardiac disease, since he had no symptoms before it, and no one could be without symptoms who had such serious heart-trouble as we find here.

This is a case in which treatment will accomplish a good deal. Not that I mean that there is any possible chance of curing the patient,—the lesions are much too extensive for that,—but his general condition can no doubt be greatly improved. In the first place, we must get rid of the pulmonary congestion; and this can best be done by the application of dry cups every day or two. There are two remedies especially indicated for improving the nutrition and stimulating the flagging heart, and these are iron and digitalis. The heart's action is exceedingly feeble and irregular, and nothing will strengthen and regulate it like digitalis. The iron and digitalis may often be given alternately with advantage; but of late I have come to giving digitalis in the form of *digitalin* a good deal in combination with iron. The dose is quite small, one-hundredth or one-sixtieth of a grain, and it should ordinarily be given about twice a day. Digitalis, as you know, is a direct heart-tonic, and greatly increases the nutrition of the organ. In addition, rest must be insisted on; for this constitutes the most important element in heart affections. The patient, of course, is not to remain absolutely quiet, but must take great care to avoid everything that will throw increased work upon the heart, which is to be spared in every possible way. In pursuance of this plan he must keep from any mental excitement as much as possible, as well as be particular in his diet, eating principally of those albuminoid foods which will furnish the greatest amount of sustenance with the least amount of waste. He must avoid all stimulus except in such small quantities as may serve to assist nutrition. A moderate amount of exercise may be permitted, and will be of service in invigorating the system; but of course all violent exertions are to be interdicted. One thing we must look out for. The enfeebled heart-circulation is going to have a bad effect upon the portal circulation: so that it will be necessary to give the patient an occasional drastic cathartic, and I know of none so good in these cases as calomel (in five or more doses), which may be combined with or followed by some other purgative. This is especially indicated in the present instance, as the man lives in a malarious region. It is important that the urine should be examined from time to time for albumen, which not infrequently results

from the effect of the heart-trouble upon the renal circulation, when there may be no degenerative disease of the kidneys. Should it make its appearance in the urine, the remedies above mentioned should be given in increased quantities until it disappears. Finally, quinine will have to be given our patient as occasion may require.

TRANSLATIONS.

RELATION OF ERYTHEMA NODOSUM TO TUBERCULOSIS.—Oehme (according to *Centralblatt für Chirurgie*, No. 43, 1877, 680) has observed that, though in strong and healthy individuals erythema nodosum leaves no unfavorable sequelæ, for joint-affections and diseases of the endocardium do not occur as a rule, yet in persons of bad constitution or of unfavorable hereditary tendencies the advent of erythema of this character is ominous. In such cases general tuberculosis is liable to occur very soon, according to his observations; and he mentions one case where a child apparently recovered from erythema nodosum died a few weeks later of tubercular meningitis. He therefore believes the affection to be a general disease, of which the eruption is merely an early symptom.

J. B. R.

THE USE OF LACTATE OF SODIUM FOR HYPNOTIC PURPOSES.—The hypnotic effect of this drug, which was believed to exist from the observation of Preyer, has been tested by Kroemer, who gives a rather adverse report (*Centralblatt für Chirurg.*, No. 43, 1877, 685; from *Deutsche Med. Wochenschrift*, Nos. 15, 16.) He obtained sound sleep in no case by using lactate of sodium, and does not appear to have observed any special calmative action. Temperature, pulse, and respiration were in no wise influenced by the remedial agent; in two cases diarrhœa resulted, and in another instance obstinate constipation remained, notwithstanding large doses of the lactate of sodium. The number of patients was seventeen, and they suffered with melancholia, mania, paralytic dementia, and secondary mental troubles; so that the range of cases was quite varied. The dose administered was nearly 400 grains (25 grammes), and the average number of doses to each patient over six, though one or two took as many as seventeen and twenty-six doses.

J. B. R.

METRRORRHAGIA TREATED BY ERGOTIN ADMINISTERED SUBCUTANEOUSLY.—In *Bull. Gén. de Thérapeutique*, 1877, pp. 337-344, Constantin Paul gives the results of his experience in the subcutaneous use of this drug for uterine hemorrhage. He employs a solution of specially prepared extract of ergot (ergotin) in glycerin and water, in the proportion of one part of the drug to fifteen of the solvent. He mentions a number of cases where frequent hemorrhages occurred as a sequence of cancer of the uterus, and in nearly every instance the bleeding ceased in five or ten minutes after the injection of the remedy. The dose employed was about one grain of the extract, which would seem to be stronger than the ergotin used in our hospitals. He also had similar success in hemorrhage after parturition. The author states that in the fourteen cases observed the action of the remedy was efficacious, and that it is much more prompt than the former method of administering ergot by the stomach; and in these cases rapidity of action is certainly of great moment. Moreover, the hypodermic method has the advantage of producing much less colic than the introduction of ergot in powder by the mouth, and of being more constant in its action. Finally, the dose subcutaneously is much smaller proportionally than is usually experienced in hypodermic medication, and there seems to be little inflammatory trouble produced locally.

J. B. R.

PRODUCTION OF ALBUMINURIA BY SALICYLIC ACID.—M. Gubler reported to the Society of Therapeutics (*Bull. Gén. de Thér.*, 1877, p. 378) that he had observed, while using this drug, that in certain cases there was diminution of urine, and in others increased quantity of the secretion; in fact, that there was diuresis when the salicylic acid acted on normal kidneys; and diminished amount of urine when the organs were the seat of any lesion, and in the latter cases he found sometimes albuminuria. If the acid was stopped, the albumen gradually disappeared from the urine, and the emission of the urine became natural. There are then, the author thinks, two indications, viz., that in large doses salicylic acid can produce renal lesions, and, secondly, that in congested kidneys it is imprudent to prescribe this drug.

J. B. R.

ACTION OF QUININE ON THE NERVOUS SYSTEM.—Dr. Antonio Curci has made

some experiments in regard to the action of quinia on the nerves of motion and sensation, and on functional disturbances of the vaso-motor nerves (*Giornale di Medicina Militare*, Rome, 1877, No. 9, p. 891; from *Lo Sperimentale*). His conclusions are summed up somewhat as follows:

Quinia retards the velocity of the excito-motor current, and retards and diminishes general and tactile sensibility as well as sensibility to pain and also the specific senses. It has a regulating power over vaso-motor disturbances, and over other sensory and motor disturbances of the nerves of vegetative life, and therefore, without doubt, has action on these nerves as on those of animal life. The retardation of excito-motor currents and excito-sensitive currents does not seem to follow from a debilitating action, but from a special restraint of quinia on given currents and on function; by which it impedes the facility of excitation, in weakness accompanied by erethism, and combats morbid super-excitability, and does not permit exhaustion. The therapeutic action in certain neuroses of sensibility and motility cannot be explained better, at present, than by means of this restraining action on nervous currents, and on the functional power of the nervous system in general. In small doses the drug has a tonic and corroborant action on the nerves, and thus probably restrains function and moderates an excessive development and inopportune waste of force. J. B. R.

DIARRHŒA TREATED BY OXIDE OF ZINC.—M. Bonamy has adopted (according to the *Revista Médica de Chile*, Año VI. núm. 1, p. 26) in obstinate diarrhœas the treatment indicated by Gubler, that is to say, about fifty-five grains of oxide of zinc with a very small amount of bicarbonate of sodium, to be divided into three or four doses and one such dose to be given every three hours. He has not found it to cause vomiting, and finds the diarrhœas in which he has employed it to be relieved, though resisting other remedies, and to return when this drug is suspended. Moreover, cases of several months' duration have been modified by the administration of a few doses of oxide of zinc. J. B. R.

EPILEPTIC SEIZURES INDUCED BY A POLYPUS OF THE LARYNX.—In *La France Médicale*, No. 72, 1877, p. 570, is related a case which was reported by Sommer-

brodt in *Berlin. Klinische Wochenschrift*, where epileptic fits appeared to depend on the irritation of a laryngeal polypus. The patient, aged about 55 years, had suffered with hoarseness for a long time, but finally was attacked with great dyspnœa and fits of unconsciousness accompanied by frothy saliva and biting of the tongue. There was after one of these attacks a slight palsy of the left side and left face. The frequency of the fits increased until he had several in one day, and it was found that the disease was uninfluenced by bromide of potassium. A laryngeal tumor of considerable bulk and triangular in shape was seen attached to the left vocal chord, which by its weight caused a depression of the chord and almost entirely obliterated the opening of the glottis. The right vocal chord was entirely free, and the left chord could be seen in nearly its whole extent notwithstanding its relations to the tumor. The growth was removed with very little bleeding, and was found to be a fibroma. Five months after the operation there had been no epileptic spasms, and there was no return of the tumor. The account concludes by saying that one hesitates to attribute the fits exhibited in the patient to the polypus, and mentions that fifteen years previously the man had some similar attacks of a light character, which disappeared when an old cicatrix on the back of the hand had been removed, only to return years afterwards when the polypus appeared,—for it is said that the polypus had been seen with the laryngoscope before the last epileptic attacks were generated. Hence it probably at least acted as the exciting cause of the seizures. J. B. R.

THE EXCRETION OF MERCURY DURING ITS USE AS A MEDICINE.—According to the *Centralblatt für die Med. Wissenschaften*, No. 30, 1877, p. 555, Hamburger found that the urine contained mercury regularly during the use of inunctions of mercurial ointment, though an examination showed that the milk contained none. When mercury was administered by suppository the urine and milk both gave evidence of the presence of the drug. He used the electrolytic method of Schneider, of which he tested the usefulness by experiments. J. B. R.

OBSTINATE VOMITING DURING PREGNANCY GREATLY RELIEVED BY DILATATION OF THE CERVIX.—A woman, aged 22 years,

in the second or third month of her first pregnancy, entered the Maternity Hospital of Santiago, under the care of Dr. A. Murillo, suffering with incessant vomiting (*Revista Médica de Chile*, Año V, núm. 6, p. 235). She was very weak, had gastric distress, and vomited every two or three minutes, ejecting food, bilious matter, and mucus. The tongue was coated, the pulse 120 per minute and feeble, the skin dry and hot; and giddiness like that of sea-sickness prevented her sitting up. As pepsin, calmatives, tonics, ice, milk, etc., had been tried without result, Dr. Murillo determined to resort to dilatation of the neck of the uterus, as recommended by Copeman, of Norwich, England, before resorting to measures to induce abortion. He therefore introduced the finger into the softened cervix as far as the internal orifice, and kept it there for two minutes. He then ordered ice-cold milk punch by the mouth; and broth, pepsine, and muriatic acid by enema twice daily. The cervix was dilated in a similar manner four different times at intervals of one or two days; and morphia given to produce sleep, which, however, did not have the desired effect. At the end of a week the improvement was very marked, the patient vomited less frequently, retained the light aliment allowed, and could sit up without being giddy. In eleven days she left the hospital to go to the country, not entirely cured, but very greatly benefited. J. B. R.

PURPURA FOLLOWING THE USE OF IODIDE OF POTASSIUM.—*Le Mouvement Médical*, No. 37, 1877, p. 413, describes a new form of eruption, produced by iodide of potassium, that has been described by M. Fournier. He denominates this medicinal eruption *Purpura Iodica* or *Petechial Iodism*. There are discrete spots on the skin, of a blood color, which do not become effaced by pressure; these have appeared usually on the anterior tibial region, though one case is mentioned where they were seen on the trunk only. The eruption in susceptible persons occurs a few days after the use of the iodic preparation, and recurs at any new administration of the drug. It disappears spontaneously after the lapse of two or three weeks. J. B. R.

PULMONARY TUBERCULOSIS IN HYSTERICAL SUBJECTS.—M. Leudet presented a paper on this subject to the French Association for the Advancement of Sciences (*La France Médicale*, 1877, No. 72, p.

572), and gave the following as his conclusions. 1. Hysteria can precede pulmonary tuberculization, accompany its onset, or appear during its course. 2. Generally convulsive hysteria ceases at the beginning of the graver disease or during its early stages. 3. The neurosis often causes troubles of sensibility and motility during phthisis, but these manifestations must be distinguished from peripheric vaso-motor nervous troubles which are observed in chronic maladies. 4. The pre-existence of hysteria does not prevent the rapid development of pulmonary tuberculosis, though generally phthisis in hysterical patients has a long duration.

J. B. R.

BISMUTH IN THE TREATMENT OF PROLAPSE OF THE RECTUM AND HEMORRHOIDS.—A case is recorded in *La France Médicale*, No. 86, p. 682, where a considerable protrusion of the rectum was perfectly cured by means of bismuth powder used locally. The physician introduced every day into the bowel, after replacing it, a small spoonful of bismuth (subnitrate?) in a small amount of starch-water. Cure followed in a week. Good results followed similar treatment in cases of prolapse in children, and in hemorrhoids. J. B. R.

CITRIC ACID IN DIPHTHERIA.—Caspari (*Deutsch. Med. Wochens.*, *Cbl. f. Chir.*, 1877, p. 670) has used citric acid exclusively in some forty cases of diphtheritis, obtaining good results in every instance. In severe cases occurring in adults or large children Caspari pencils the pure citric acid solution upon the diseased surface. In young children or less severe cases of disease he uses the solution diluted with ten per cent. of glycerin. In all the cases in which this treatment has been employed the result has proved fortunate; while in two instances of children under one year, where the parents forbade the treatment because of its painfulness, both of the little patients succumbed. x.

CAUTERIZATION IN FISTULA ANI.—M. Broca (*Jour. de Méd. et Chir. Pratique*) prefers operating in anal fistula with the aid of the actual cautery, either in the form of the galvano-caustic loop or the thermo-cautery. This operation has the advantage of dispensing with the tent of charpie, which is so irritating and annoying. The sides of the wound made by the cautery have no disposition to immediate union. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 5, 1878.

EDITORIAL.

OUR POVERTY.

IN all parts of the country there has been for a long time a gradually rising ground-swell of murmur, here and there breaking into a tumultuous wail, over the increasing difficulty of earning a support in the profession of medicine. On the table before us lies a brilliant pamphlet,* which shows but too plainly that not only are the multitudinous complaints well founded, but that they also depend upon a cause so deep-seated that no remedy can avail, save only the reduction of the profession by the outcrowding of its members; the only hope lies in famine and the consequent destruction of the weakest, —the oft-recurring tragedy of nature, in which, though the end be good, the individual and his miseries count for nothing, the race being everything.

That the medical profession in America has outgrown the possible food-supply is abundantly proven by the following figures, extracted from Dr. Pepper's pamphlet: In the United States there is one doctor to every 600 inhabitants; in France, one to 1814; in Italy, one to 3500; in the German Empire, one to 3000; in the Austro-Hungarian Empire, one to 2500; in Great Britain (where there is great complaint of overcrowding), one to 1672; in Canada, one to 1193. We leave comment upon these figures to Prof. Pepper. They seem to us to speak for themselves; especially as the rate of increase in this country is a rising one and is already out of all proportion to the need: thus, in the three principal countries of Continental

Europe, with a population of 113,000,000, the yearly number of medical graduates is 1850, whilst in the United States, with less than 45,000,000 of population, the annual medical outpouring last year reached 3000. It would be interesting to compare the mortality lists.

Figures such as these reveal why it is the screws are pinching so many, and why the assaults upon our dispensary systems and other medical charities have of late grown so vigorous. As our readers well know, much space has been recently allotted in these columns to a discussion of the evils of our medical charities. It certainly has been shown, here and elsewhere, that these evils do exist. On the other hand, infinite suffering is relieved; illnesses, otherwise full of ruin and physical agony, are made oases of comfort in life-wastes of misery; lives are saved, and often lives, too, whose sacrifice means loss of all pecuniary resources, and the degradation of absolute poverty to families of growing children.

The evils that are wrought are plainly twofold: 1st, a certain amount of pauperization in the lower class, and some demoralization of a higher class by the encouragement of a species of stealing, or of obtaining money or its equivalent under false pretences; 2d, robbery, to some extent, of the younger members of the profession of a much-needed support.

Balancing the evil and the good, the latter immensely preponderates; so immensely, that to do away with medical charities would be almost to do away with Christian civilization. The mere proposal of such a remedy is a crime.

It must further be borne in mind that the impoverishment of any physician by the abuse of medical charities is ludicrously small, when compared with that caused by the overcrowding of the professional ranks. Thinning out the doctors, not thinning out the dispensaries, can alone bring decided relief. Nevertheless the attempt is worthy, to discover

* Introductory Address. By William Pepper, M.D. Philadelphia, J. B. Lippincott & Co.

if the abuse of medical charities, which at present certainly exists, can be avoided.

In doing this, care must first be taken to clearly distinguish between hospitals and dispensaries. As regards the former, in this city it seems to be unquestionable that, whilst there is no further need of new hospitals, or of more "pay beds," there is need of more "free beds" in existing institutions, or, in other words, of greater endowment of hospitals already founded.

The leaving of home, the herding with strangers, the acceptance of the discipline of the hospital, the wide-spread feeling that the patient is in the power of men more or less irresponsible and under constant temptation to try new methods of treatment, all tend to prevent abuse of the hospital, but do not have force in restraining the attendance upon the dispensary. These and similar causes have confined the abuse of medical charity almost entirely to the latter class of institutions. To remedy the evil various proposals have been made. Even the entire closure of all dispensaries has been advocated. Without entering into detail, this proposition is to be reprobated for the following reasons. First. There are many cases requiring special skill, which can only be obtained free of cost at some such institution as a dispensary, where men of exceptional skill or experience are able either to see the cases themselves or to superintend their treatment by younger men in process of training. Second. There are numerous cases which cannot afford to pay anything, and which can be treated with least expenditure of professional time and nerve-force in dispensaries. As dispensaries ought to go on, and as they undoubtedly will do so, efforts at reform or prevention of abuse should attempt to diminish the temptation to patronize them by lessening the costliness of medical service at home and by diminishing the attractiveness of the dispensary. Reducing at

the same time the *vis a tergo* and the *vis a fronte* of necessity lessens the speed of travel. The consideration of how far and in what way this can be done must, however, be postponed to our next issue.

REQUIESCAT IN PACE. — Pongo is no more. His gentle spirit fled November 12. For several days his friends had known that he was suffering from a slight diarrhœa; but the evening of his death, Dr. Falkenstein, who had rescued him from the wilds of Africa and was teaching him the ways and manners of his more highly developed cousins in the Berlin Aquarium, left him, unaware of the impending catastrophe. The African women took pity on Mungo Park; but no one eased the dying moments of poor Pongo, separated by oceans and continents from his hairy mother and brethren. Post-mortem examination showed that, like many a less esteemed but more human infant, he died of enteritis. His body has been purchased by the Berlin Anatomical Museum for \$1500, and his anatomical memoirs are to be written by Professor Von Hartmann as a fasciculus of his great work on "Anthropoid Apes."

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, OCTOBER 25, 1877.

The PRESIDENT, DR. H. LENOX HODGE, in the chair.

Fatty heart, with polypus of right auricle. By FREDERICK P. HENRY, M.D.

RACHEL N., æt. about 50, was admitted to the Episcopal Hospital on October —. Her clinical history previous to admission was very meagre in details, and is essentially comprised in the fact that her illness began in December last with dyspnœa and precordial distress, and gradually increased in severity. The date of the beginning of the dropsy—the most prominent symptom—was not obtained.

On admission, she was extremely feeble and very anæmic-looking, but did not present an appearance of cyanosis. Her feet and legs were

quite œdematous, and the abdomen greatly distended with fluid: at the widest portion it measured forty-eight inches.

I examined the urine carefully, but found neither albumen nor casts. The dyspnoea was not great when in the sitting posture, due doubtless to diminished sensibility of the respiratory centre from carbonic-acid poisoning, for she was very drowsy. A portion of each night had to be passed in a chair.

The symptoms relating to the heart were all objective, the patient making no complaint, and were very interesting. The pulse combined, in their highest degrees, the qualities of frequency, irregularity, and inequality. Several feeble beats would occur in rapid succession, to be followed by two or more pulsations more normal in fulness and rhythm, then perhaps an intermission equal in time to one or more of the most natural pulsations, and again several rapid, fluttering beats. During another fraction of a minute this order might be entirely changed. The action of the heart, it is important to remark, entirely corresponded with the radial pulse. It is well known that we may have a pulse similar to the one I have described with a regularly acting heart,—the "*pulsus paradoxus*" of Kussmaul,—or, on the other hand, we may have a regular pulse with an irregularly-acting heart, *e.g.*, when the ventricular contractions are not synchronous. The heart-sounds were faint, but uncomplicated with murmur, and the apex-beat was feebly felt in the normal situation. Owing to the great weakness of the patient, the examination was not protracted, and no attempt was made to determine the area of precordial dullness; as will be seen later, the condition of the adjacent lung would have rendered any such attempt hopeless.

I had previously seen several hospital cases precisely similar in every respect to the one under discussion, in none of which did I obtain an autopsy, for the reason that none of them died while under my care; indeed, the tenacity with which they clung to life was always a source of wonder to me. My diagnosis in all these cases was atheroma of the orifices of the coronary arteries, with subsequent fatty degeneration, and, as it is now confirmed by an autopsy in one case, I have no doubt whatever that it was correct in every instance. Ordinary fatty degeneration does not produce more than a slight irregularity, and even that exceptionally, whereas the combination with atheroma of the coronary orifices produces both it and inequality in a high degree. The scanty and irregular supply of blood, it is easy to understand, would produce just such an action, whether we regard the cardiac contraction as dependent upon a direct influence from the blood or an indirect one through the cardiac ganglia.

The patient died suddenly on October —. Tapping was not resorted to, because the

effusion diminished very perceptibly under a treatment designed to promote arterial tension and increase the action of the bowels.

At the autopsy, the pericardial sac contained about two ounces of a greenish-yellow serum, the sac itself being healthy. The heart was considerably enlarged by dilatation; its walls pale, flabby, and evidently fatty. The auriculo-ventricular valves, on both sides, are thickened, especially at their free borders, and have lost their transparency, being of an opaque yellowish-white. Were it not that they appear perfectly competent, I should say, from their appearance, that they were the seat of a chronic endocarditis. The question of competency is not always easy to determine, but I think it will be agreed by those who examine these valves that, if the amount of thickening present were due to inflammation, there would also be present an amount of induration and contraction that would produce very manifest stenosis, or insufficiency, or both. If any abnormality were present, it was undoubtedly insufficiency, and was probably relative, owing to dilatation of the venous ostia.

If this thickening is not inflammatory, what is it? I believe it to be fat,—a primary deposit of fat,—not atheroma, which is a fatty degeneration of previous inflammatory deposit; and think I have more than once observed fat in this situation that has been mistaken for atheroma. Fat in this situation is, so far as I know, not mentioned as a cause of cardiac disease, and, unless it be excessive, could hardly be so considered; but the limits to its deposit here, as in other situations, are probably very indefinite.

Can we decide this to be fat without the microscope? I think so, for the reason before given, that were the amount of thickening present due to inflammation, contraction would not be absent. The contraction of inflammatory deposits in this situation is peculiarly great.

In the next place, can the exact anatomical seat of this deposit be determined without the microscope? Let it be observed that the degree of this fatty thickening in the two auriculo-ventricular valves is very different, being much greater in the mitral than in the tricuspid. Now, unless our views as to the deposit of fat and fatty degeneration are entirely wrong, this is just the contrary of what we ought to find. The presence of highly-oxygenated blood is inimical to the deposit of fat, and in the left auricle we have the blood charged with oxygen to its utmost capacity, while in the right auricle the conditions are entirely reversed. Is this therefore a deposit of fat, or a degeneration—a metamorphosis—of elements existing in both valves in an unequal degree? In the mitral valve it is generally conceded that muscular fibres are present; indeed, I do not know that it is called in question by any one who has exam-

ined the subject; while in the tricuspid they are comparatively so rare that certain authorities are quoted in the text-books in support of their existence. They exist, therefore, in a very unequal degree on the two sides, so that a fatty degeneration on both sides of these valvular fibres would produce such dissimilar appearances as are observed in this specimen. Another interesting question upon which greater light might be thrown by further study of fatty changes in these valves is this: in fatty metamorphosis is there increased bulk of the diseased cell? If my views are correct, this must be answered in the affirmative, for the valves are thickened, and it would not be difficult to find numerous facts in support of this conclusion. At present I need only refer to the liver.

The right auricle contains a tumor which, under the name of cardiac polypus, was a source of great interest to the older anatomists. It is a cyst about the size of a filbert, containing a puriform fluid, and is firmly attached to the endocardium. It is unnecessary to describe the mode of formation of these cysts, but I will call attention to the fact that they may be the cause of serious functional disorder, and, apart from the formation of embolism by the discharge of their contents or their detachment, may, by their interference, produce dyspnoea, dropsy, and sudden death. This is admitted by Schroetter (Ziemssen, vol. vi.). In the present case the polypus is probably secondary to the fatty degeneration, to which was owing the feeble circulation requisite to its formation.

The liver was rather below the normal size, lighter in color and denser than normal. On section, it presented the nutmeg appearance in a marked degree. There was probably a combination of red atrophy with increased formation of interlobular connective tissue, cirrhosis. This cirrhotic complication was a principal factor in the production of the ascites. I make this assertion *because the urine did not contain albumen*. In my experience, an amount of cardiac disease sufficient *in itself* to produce ascites, is invariably accompanied with albuminuria. There may be exceptions to this rule, which is, as I said, based upon my own experience solely; but at least it is not too much to say that in cardiac disease with ascites, but without albuminuria, cirrhosis of the liver is to be suspected, and the cirrhosis, in relation to the heart-disease, may be either primary or secondary; in the former case, however, without there being any causative connection.

The kidneys were greatly congested and decidedly granular.

The lungs were healthy, with the exception of the bases on both sides, in which there existed hypostatic pneumonia. The tongue-shaped process of the left lung, and a portion of the anterior border of the superior lobe, were also consolidated, showing that any at-

tempt to map out the area of precordial dullness would have been futile. The larger bronchi were congested; otherwise the lungs were perfectly healthy.

The preceding remarks may be summed up in the four following propositions:

(I.) The auriculo-ventricular valves contain muscular fibres whose physiological action is not thoroughly understood, as is evidenced by the numerous theories concerning the mechanism of their closure.

(II.) These fibres undergo fatty degeneration in common with the myocardium, and perhaps separately, and thus whatever active function they possess may be impaired or lost.

(III.) In addition to such loss of function, fatty valvular degeneration produces a mechanical interference through thickening of the leaflets.

(IV.) Thickening and opacity of valves, without contraction, is to be referred to fatty deposit or metamorphosis.

Dr. TYSON thought it more reasonable to suppose the fatty change in the valves to have been secondary to an inflammation and proliferation, succeeded by a fatty degeneration of the proliferated cells. The contraction of the valves, referred to by Dr. Henry as absent, he thought not a necessary consequence of inflammation. Dr. T. would expect it only in extreme degrees of inflammation. In regard to determining whether the fatty change was primary or the result of inflammation, Dr. T. thought we might be aided by the presence of unaltered proliferated cells alongside of others, the seat of fatty change, and alongside of these also the products of complete disintegration, including cholesterin plates.

Dr. NANCREDE thought it possible to have a fatty change without inflammation, due to imperfect nutrition of the parts.

Dr. GUITÉRAS said that the lesions in this case seemed readily explicable in the usual manner. These valves are not in a passive condition favoring a fatty infiltration. He thought that the case was one of commencing general atheroma, which, together with the disease of the kidneys (cirrhosis), subjected these valves to an unusual strain, giving rise to a slow inflammatory process. This explains why the left heart is affected long before the right, because the former is subject to the obstructions in the general circulation. He had frequently seen just such valves in the early stages of atheroma, and thought that contraction would generally follow in later stages. Dr. G. said that he would remind the Society of the interesting article on "Atheroma" written by Fothergill for the *Philadelphia Medical Times*, where he uses with great advantage the well-known theory of increased vascular tension, to explain the lesions of the heart in general atheroma.

Dr. HENRY replied that there are in this case very slight atheromatous changes in the

aorta, chiefly about the coronary orifices; and as the aorta is decidedly the most frequent seat of chronic endo-arteritis, it was a fair inference that the peripheral vessels were healthy. The radials certainly were so, if this can be determined by palpation during life. Dr. H. asked if it were possible for such a degree of inflammatory thickening to exist without contraction. He had frequently observed, at autopsies of cases in which during life there had been no sign of cardiac disease, an opaque and thickened condition of the borders of the auriculo-ventricular valves, the valves being undoubtedly competent. Can this condition be referred to inflammation? If so, it must be acknowledged that inflammation in this situation is often harmless,—a doctrine which has heretofore found no advocate. It must be borne in mind by those who consider this change inflammatory, and explain the absence of contraction to want of time, that this is not a recent case. The symptoms were first complained of in December last, nearly a year ago, and disease may have been present long before. Dr. H. was inclined to think there had not been sufficient resistance in the arterial circulation to account for valvular changes.

Dr. GUITÉRAS said that he desired to make a statement more fully explaining Dr. Fothergill's views. Dr. Fothergill lays particular stress upon this increased vascular tension, in the early stages of the disease. He accepts the views of Johnson and Beale, who consider the thickening of the vascular walls at first as a muscular hypertrophy; that this is brought about by the contraction of the arterioles to resist the passage of a blood loaded with effete matters from disturbed assimilation and elimination. In this manner he explains the increased arterial pressure, which is certainly demonstrable by means of the sphygmograph.

Report of the Committee on Morbid Growths.—"A microscopic examination of the thickened mitral valve of the heart, presented by Dr. Henry, shows the thickening to be due to an increase in the growth of fibrillar connective tissue, in which are seen numerous nuclei. The endothelial covering, at different points, is seen to have undergone an increase in cellular elements. There was not observed either fatty infiltration or metamorphosis. Your committee are inclined to consider the thickening as a result of a slow inflammatory process.

"November 8, 1877."

Abscesses of the liver. By Dr. JOHN GUITÉRAS. Patrick G., æt. 39, admitted to the Philadelphia Hospital October 9, 1877.

Has always been a healthy man. Never had renal or pulmonary disease. Never had rheumatism. No syphilitic history. The family history is good.

Has been working along the Susquehanna River, near Harrisburg, this fall.

Three weeks ago had a chill, with fever. The chills and fever continued daily, with night-sweats. He has lost some flesh.

He arrived in the city to-day, and walked to the hospital.

He is a stout man, and does not seem to be very sick. Is not very pale. The heart and lungs are healthy. Appetite poor. Bowels costive. Liver enlarged, extending from the fourth rib to half-inch below the margin of thorax. Posteriorly it extended up to half an inch below scapula. Complains of some pain over the liver. Tongue coated; no vomiting, nor has there been at any time. Cannot sleep at night; has fever. (See temperature.)

October 10, 1877.—Fever continues. Quinine ordered. Nourishing liquid diet.

October 11.—Pain over the liver, with tenderness, especially towards the epigastrium. Bowels constipated. Quinine continued. Ordered castor oil.

On the 12th, 13th, and 14th, no change. Quinine had not been taken; was ordered, producing slight change in the temperature. Complained but little of pain in the liver.

15th.—Bowels moved in the morning. Got up in absence of the nurse, and walked downstairs to smoke a pipe. In the afternoon had profuse hemorrhages from the bowels. Hypodermic injections of ergotin arrested the hemorrhage; but active stimulation failed to bring about reaction. He died at six o'clock the next morning.

Post-mortem.—Lungs healthy. The right lung is adherent to the diaphragm. Heart healthy. Kidneys slightly fatty. Spleen normal. Small intestines healthy.

Large intestines are congested. The solitary glands enlarged. At the cæcum there are some large, irregular, but very superficial ulcers, without any infiltration of the surrounding tissue. About six inches from the valve, an ulcer with an infiltrated base was found. It is a transverse ulcer, extending almost all the way around the intestine. Its surface is covered with a slough. The large intestines contain a large amount of blood.

The liver is uniformly enlarged, very pale, flabby, and decidedly fatty. An abscess about the size of a foetal head occupies the convexity of the right lobe. It has reached near the capsule, but there are as yet no adhesions to the diaphragm. Two abscesses that would hold a middle-sized orange each are found in the line of the longitudinal fissure and in the left lobe, near the upper surface, anteriorly. There is also a smaller one in the right lobe.

I dissected the branches of the portal vein, and found leading to every one of the abscesses a large branch of this vein, which seemed to have melted in the suppurative process. These branches terminated abruptly, and were only separated from the pus by the so-called pyogenic membrane. These blood-vessels showed no evidence of phlebitis,

neither could I find any embolus. The peritoneal covering at the seat of the intestinal ulcer was perfectly normal, and I could find no evidence of phlebitis there.

Temperature Record.—October 9.—Evening, P. 96, resp. 25, temp. 100°.

October 10.—Morning, P. 88, resp. 20, temp. 99°. Evening, P. 100, resp. 22, temp. 101°.

October 11.—Morning, P. 104, resp. 21, temp. 99°. Evening, P. 104, resp. 25, temp. 102 $\frac{2}{3}$ °.

October 12.—Morning, P. 92, resp. 21, temp. 99°. Evening, P. 108, resp. 24, temp. 101 $\frac{2}{3}$ °.

October 13.—Morning, P. 92, resp. 17, temp. 99°. Evening, P. 104, resp. 26, temp. 102°.

October 14.—Morning, P. 104, resp. 19, temp. 99 $\frac{3}{4}$ °. Evening, P. 104, resp. 22, temp. 101°.

October 15.—Morning, P. 104, resp. 19, temp. 98 $\frac{3}{4}$ °. Evening, P. 116, resp. 23, temp. 99°.

Remarks.—In the first place, in regard to the intestinal ulcer, the history of malaria and the absence of all evidence of syphilis or tuberculosis lead us to conclude that the ulcer is dysenteric. This case will swell the number of cases of latent intestinal ulceration; but yet it is probable that an investigation in this direction might have elicited from the patient a history of dysentery in the earlier periods of the disease.

It is surprising to note the slight constitutional disturbance that this extensive suppuration gave rise to. The most reasonable diagnosis seemed to be low continued malarial fever, with congestion of the liver. When I was told of the hemorrhage and death, I changed the diagnosis to typhoid fever of the variety called *ambulatorius*. Here was the error. At this time the diagnosis of abscess of the liver might have been made, because there were no grounds for a diagnosis of typhoid fever in the face of such a temperature-sheet, and of the history of the case. The patient complained so little of hepatic pain that the symptom had been allowed to fall into the background.

Probably the diagnosis would have been of little service, since I do not believe that the aspirator could have been successfully used.

It is of interest to note the absence of an embolus in the portal veins. I take it that the embolus in these cases belongs to the infecting variety, and breaks down into pus, together with the surrounding tissue, contrasting with the mechanical embolus of the pulmonary artery, that I exhibited some time ago, where the plug remained intact, and the wedge-shaped area of pulmonary tissue beyond was breaking down by a process of gangrene.

Dr. G., in reply to the question as to what were the symptoms in abscess of the liver, said that the disease was very apt to be latent. In two cases of abscess of the liver that he had seen previous to this one, the lesion

had not been detected during life. In one a small abscess had opened into the pleural cavity, and the resulting empyema only was diagnosed. In the other, the abscess was enormous; it had for the upper wall the deeply-excavated left lobe of the liver, and the inferior wall was made up by the adherent stomach. The dyspeptic symptoms in this case were so slight, that the diagnosis of cancer of the stomach, determined upon by one of our best diagnosticians, was considered very doubtful.

In the present case, several symptoms were absent or imperfectly developed. The man was living in the temperate zone. The fever was not wearing him out, as is the case in suppuration; in fact, but little attention would have been paid to it had it not been for the thermometer. There were no localized bulgings, no fluctuation. The pain in hepatic abscess may be much better marked than in this case,—extending up to the right shoulder and accompanied with marked tenderness when the inflammatory process involves the peritoneum. Symptoms of obstruction of the duct or of the portal vein may or may not exist. The failures of diagnosis probably explain why many of these symptoms are not elicited from a large number of the cases.

Dr. HENRY asked if there was any enlargement of the mesenteric glands. In a case of peritoneal tuberculosis reported by him to the Society three or four years ago, the peritoneum covering the intestines was studded for many feet with miliary tubercles. The mesenteric glands at the spinal attachment of the mesentery were matted into a tumor several inches in circumference. There was almost incessant colliquative diarrhoea, though the intestinal mucous membrane appeared healthy throughout. In another case, the intestine was the seat of several tubercular ulcers, the mesenteric glands were *not* enlarged, and there was no diarrhoea. He had explained the diarrhoea in the first case by a paralytic pressure upon the sympathetic nerves supplying the intestine, and in support of this view referred to the well-known experiments of Moreau. The present case furnished still further negative evidence in support of this view.

Cystic tumor in the axilla. Presented by Dr. W. W. KEEN.

James McAndrew, æt. 27, Irishman, from Shamokin, miner, admitted to St. Mary's Hospital October 20, 1877. He states that three years ago he first noticed a small lump in the right axilla, which at first grew slowly, but of late quite rapidly. No pain was ever experienced, and the mechanical inconvenience is the only reason for seeking aid. The tumor measured about ten inches across. It extended from high up in the axilla to the ninth rib, and ran under both the pectoralis major and latissimus dorsi. The veins were somewhat enlarged. It was apparently di-

vided into two parts by a marked indentation, but palpation showed that fluctuation not only existed on each side of the apparent division, but from one side to the other. The diagnosis of unilocular cystic tumor was made, and confirmed by obtaining a small part of the fluid with a hypodermic syringe. This fluid was opaline, and by heat and nitric acid the amount of albumen was large. Considerable bleeding followed at the point of puncture, though no visible vein was injured.*

October 24, 1877.—A straight and, in the lying posture, nearly vertical incision, five inches long, was made. After the skin and fascia were divided and the surface of the tumor reached, the knife was laid aside, and the cyst was gradually peeled loose entirely by the fingers, and removed intact, though the walls were very thin. Not a single blood-vessel was ligated. The axillary artery was readily felt at the apex of the wound. Four sutures, adhesive straps, and two compresses completed the dressing. Except a slight tendency to burrowing downwards, readily met by drainage, the man did excellently, and went home with the wound nearly healed, November 7.

The cyst proved to be unilocular, with reddish, thin liquid contents. The sac consisted of a thin, transparent wall, thickened at numerous points by thin plates of almost cartilaginous hardness. The apparent septum was due to a tight band of connective tissue, which constricted it externally.

Report of the Committee on Morbid Growths.—"The fluid contained in the cystic tumor presented by Dr. Keen, upon microscopic examination, is seen to contain compound granular cells, leucocytes, squamous epithelial cells, shreds of fibrin, numerous cholesterin crystals, and amorphous granular matter. By the employment of the nitric-acid test, albumen was found to be present in large amount.

"November 8, 1877."

REVIEWS AND BOOK NOTICES.

A COMPEND OF DIAGNOSIS IN PATHOLOGICAL ANATOMY, WITH DIRECTIONS FOR MAKING POST-MORTEM EXAMINATIONS. By DR. JOHANNES ORTH, First Assistant in Anatomy at the Pathological Institute in Berlin. Translated by FREDERICK CHEEVER SHATTUCK, M.D., and GEORGE KRANS SABINE, M.D. Revised by REGINALD HEBER FITZ, M.D., Assistant Professor of Pathological Anatomy in Harvard University, with Numerous Additions from MS. prepared by the Author. 8vo, pp. 440. Hurd & Houghton, New York and Boston, 1878.

Pathological anatomy is, to-day, perhaps the least known of the subjects taught in medicine in this country, for the excellent reason that, except in a single instance,—that

of the Harvard Medical School, where the chair of pathological anatomy has for many years shared equal prominence with the others of the curriculum,—until recently no pains have been taken to teach it. Although of fundamental importance, it has been looked upon as one of the *non-practical* branches, and treated accordingly. In the recent efforts to improve medical education it has received its full acknowledgment in the course of the University of Pennsylvania, while the evidences of its growing appreciation in other directions are not wanting. It is not inappropriate, therefore, that this work in its English dress should emanate from the medical school in the United States where pathological anatomy has been longest fostered; and we believe it will do more to promote the proper study of the subject than any book heretofore published in America.

Our columns do not permit a lengthy review of any treatise, and we can only give the objects and scope of the one before us. The original edition was "the result of a practical want, which had long been felt, particularly in Berlin, the seat of the Central Commission for the examination of practitioners of medicine and medical officials." Prepared by Dr. Orth, the assistant for years first of Rindfleisch and now of Virchow, it was undertaken by hands we would naturally expect to be familiar with the practical wants, in this respect, of physicians and medical jurists. Its object is to give comprehensive directions for making post-mortem examinations, for recognizing pathological changes in the *fresh* organs, and for establishing the diagnosis.

To accomplish this, after an introduction containing sections on preliminaries, instruments, and appliances for chemical and microscopic examination, the *examination of the body* is taken up,—first by *inspection*, and second by *internal examination or section*. Under the first head are included inspection of the body as a whole, and of its several parts; inspection of new-born children; and morbid conditions of the skin and subcutaneous cellular tissue, including allusion to the entire category of skin diseases, so called, together with the different varieties of tumors involving these situations. We regret that in these days of exact terminology the old term subcutaneous *cellular* tissue should be used instead of *connective*: the term *cellular* should to-day be applied only to tissues composed purely of cells.

In the second part is included most minutely the method of section and examination of the great cavities of the body and their contents,—the cranium, the thorax, and the abdomen; also of the blood-vessels, bones, and joints. All the different morbid states which affect these localities are described, their distinctive appearances pointed out, and even their microscopic characters detailed with sufficient fulness to complete the diagnosis. As an

* To this bleeding was probably due the different color of the fluid found after the operation.

example of compact distinctive description, we extract that of the rarer forms of brain tumor: "The brain is not a common seat for tumors of any kind, and the rarer forms are *carcinoma* (it is doubtful whether this is ever primary in the brain), *psammoma*, *cholesteatoma*, *melanoma*, and, most rare of all, *osteoma*. The diagnosis of *carcinoma*, as is well known, involves necessarily two things; aggregations of epithelioid cells, and an alveolar stroma of connective tissue. The cells may be obtained by simply scraping the cut surface of the growth, and their integrity be preserved by the addition of a dilute solution of iodine or osmic acid; while the stroma may be demonstrated by brushing a small bit snipped off with the scissors under water. A *psammoma* is easily recognized by its sandy bodies, a *cholesteatoma* by its pearly lustre, a *melanoma* by its color. The sandy bodies,—lime salts,—when placed under the microscope, are black by transmitted light, and are readily dissolved by hydrochloric acid; the pearly lustre results from delicate and closely aggregated glistening scales; while the cells of the melanoma contain brown or black pigment."

It is not pretended to give the complete histology of the morbid conditions described, only the prominent microscopic features; but no pathological product likely to be met in many years' experience in the post-mortem room seems to have been overlooked. In this respect, therefore, the work is an admirable complement to Rindfleisch's Pathological Histology; and the two volumes form a complete guide- and reference-book to the student of pathological anatomy. Both should be in the hands of every student and physician.

If we have any criticism to make, it is that some of the directions in the steps of the post-mortem examination are, possibly, too minute,—such as directions as to whether the right hand or the left should be used, etc.: these had possibly better be left to the convenience of the operator. Again, the disarticulation of the clavicles from the manubrium is not a difficult operation; but we are told it is to be done by "semilunar incision with the convexity directed inwards, and in the latter part of the incision the *handle of the knife is to be somewhat depressed backwards*, to avoid the lower and inner prominence of the articular surface of the clavicles." We confess we are not positive that we interpret aright the latter part of this direction. These are, however, trifles, and do not impair the rare excellence of the work.

The part of the translators is well done, and the teaching and working members of the profession are alike indebted to Dr. Fitz for making the volume available to them. J. T.

DISTEMPER.—Coffee and sweet milk have been recommended in a late meeting of the Scottish Veterinary Medical Society as a cure for distemper in dogs.

GLEANINGS FROM EXCHANGES.

HYDROPHOBIA (*The Lancet*, October 20, 1877).—Dr. Alfred Sindors believes that we should modify our old ideas regarding the etiology of hydrophobia by following out the line of thought suggested by one or more of the following speculative probabilities:

1. That some other diseased condition in the dog than that of rabies may render the saliva poisonous, and capable of originating the malady.
2. That a temporary toxic state of the saliva may be induced by feeding on putrid flesh.
3. That the suppression of some other secretion may cause the determination of poisonous elements to the salivary glands. It is a well-known fact that the secretion peculiar to the anal glands of the black skunk of America is suppressed during rabies.
4. That in certain constitutions there may exist susceptibilities, either temporary or permanent, upon which the saliva, even in its normal condition, may act as a poison; and that its virulence may be determined by the febrile state accompanying a variety of dog ailments, not excluding the *æstus veneris*.
5. That the saliva may act as a *catalytic*, determining the formation of a blood-poison by the combination of elements it meets with in the blood, and remaining inert in the absence of such elements. This would account for the escape of so large a percentage of those bitten.
6. That emotional excitement may produce a temporary toxic condition of the saliva. We have affirmative evidence in this direction in the well-known influence of passion on the milk of the human female, and we know how marked is the influence of emotion on the secretions of the liver, the intestines, and the mouth.

TOTAL ABSTINENCE.—Dr. Brudenell Carter strongly opposes total abstinence, and states that at three separate periods of his life he has tried abstaining from alcohol for three or four months, with the uniform result of a distinct deterioration of his health and working-power. He further states that he has seen life maintained for several months on alcoholic drinks alone; also that the writings of the total abstainers are sufficient evidence to his mind that in most cases their cerebral centres are not in a good state of vigor.

ASPIRATION IN ABSCESS OF THE LIVER.—Dr. Jas. H. Ball reports (*London Lancet*, December 1, 1877) with much detail the case of W. H., who returned early in July to England from Burmah suffering with a liver complaint which had commenced the previous May. He had in former years suffered from two somewhat similar attacks. His symptoms when first seen, July 10, are reported as follows:

"He came under my observation on July 10, having taken up his residence in the south of London. His state at that time was as follows. Thin. Complexion very sallow, slight icteric tint of sclerotic. Tongue

clean. Appetite fairly good. Has a short, dry cough. Breath-sounds healthy over left chest; on the right side very weak below angle of scapula behind. Heart's apex-beat in normal position sounds healthy. The right hypochondriac region is more prominent than the left; there is a marked sense of resistance to the hand placed on that region. Absolute dullness commences on the right side in front in the fifth interspace, in the axilla on the seventh rib, at the back on the tenth rib. There is no dullness below the costal margin. I cannot feel the liver below the ribs. There is a very tender spot in the epigastrium to the right of the middle line, and another almost equally tender point in the axilla in the eighth interspace. There is slight œdema of the skin over the fifth interspace outside the nipple-line. He has occasional shooting pains in the epigastric and right hypochondriac regions. Laughing and coughing cause sharp pain in the same parts. Urine free from albumen and bile-pigment. Rigors, fever, sweats, were after this rapidly developed, and both local and general symptoms grew worse until July 22, when aspiration was performed. A No. 3 needle was inserted at a point in the eighth interspace at the back part of the axilla, three inches and a half below and four inches and a half outside the nipple, to a depth of two inches and a quarter, and in a somewhat forward direction. About three-quarters of an inch after insertion a feeling was experienced of the needle having entered a cavity. On aspiration, pus immediately made its appearance. At first it was of a chocolate color, but afterwards it assumed a redder tinge. When the pus began to come slowly, slight movement of the point of the needle caused it to come more freely. The total quantity of matter drawn off was thirty-nine ounces. It was perfectly free from offensive smell. A broad bandage was applied round the body, and two grains of opium administered. 9 P.M., temperature 98.4°; pulse 82; free from pain.

At first fever, local pain, and other symptoms were relieved, but by September 1 they had again become severe, and it was decided to introduce a trocar and put a drainage-tube in. The patient thought he could bear the operation without an anæsthetic. A medium-sized trocar, smeared with carbolic oil, was inserted in the eighth interspace, just in front of the former seat of puncture, in a somewhat forward direction. It was inserted to its full extent. The abscess was, however, missed, owing probably to its having receded in position since the evacuation of its contents. Nothing but a few drops of blood escaped. The trocar was withdrawn, and a pad of lint applied to the wound. Three grains of opium were administered. In the evening he was free from pain.

On the following day he was almost free from pain and tenderness, and felt, on the

whole, relieved by the puncture. He could draw a long breath more freely. His abdomen was much distended with flatulence, but was not tender. Evening temperature 101.8°.

On September 5 aspiration was again attempted. A No. 3 needle was introduced close to the seat of the first puncture, and in a forward direction. On aspiration no pus came. The needle was partly withdrawn, and reintroduced in a backward direction, when it was felt free in a cavity, and twelve and a half ounces of a deep chocolate-brown very thick pus were obtained. After standing a little while the matter withdrawn coagulated into a solid clot, the consistence of blood-clot. 10 P.M., temperature 97.3°; pulse 80. Is free from pain.

From this time forward improvement was steady. No medicine was given except quinine and cod-liver oil. By November 2 no local symptoms whatever could be detected, and the general health seemed perfect.

MISCELLANY.

PHYSIOLOGICAL LABORATORY AT BERLIN. —The new physiological laboratory recently opened in Berlin, under the charge of Professor Bois-Reymond, is one of the most important public buildings in the city. The principal entrance, in the Uferstrasse, leads to a spacious vestibule, from which iron stairs lead to the large lecture-theatre. Not far from this, on the first story, are a smaller lecture-room and several rooms for instruments, preparations, etc. In the second floor are the laboratories for electricity, acoustics, optics, etc.; and in the attic are a photographic room and several rooms for optical purposes. The apartments of the assistants, the library, and various laboratories, are on the ground-floor. The large auditorium is lighted by means of large windows, which can be darkened at any moment, when desired, by means of Venetian blinds. The rooms in general are warmed by heated air; but in some there is an arrangement for heating with water, so as to maintain an equal temperature. The ventilation is effected by means of a steam-engine on the ground-floor.

THE doctor who signed the certificate of a woman who was recently buried alive in Naples, as well as the magistrate who authorized the internment, has been sentenced to three months' imprisonment for involuntary manslaughter.

DR. EDWARD WARREN-BEY writes us from Paris that he has felt himself constrained to make no selections of surgeons for the Turkish army, as he had been requested to do by the Ottoman minister; and that he advises those who have applied to him for positions to abandon the idea of entering a foreign service

at the present moment. For the sake of those of our readers who may visit Paris the coming summer, we would state that Dr. Warren's address is now No. 11 Rue Neuve des Capucines.

FATAL EXPLOSION WHILST MAKING OXYGEN.—Recently, at Moira, Ireland, a school-master desiring to make oxygen put two pounds of potassium chlorate and one of manganese peroxide in an iron bottle, and put the whole in a hot stove. Result: stove blown all to pieces, one boy killed, and two injured.

NOTWITHSTANDING the preliminary examination, the first-year medical class of Harvard is this year 114, against 90 last year,—a gain of 24. The whole class for '77 and '78 is 230.

NOTES AND QUERIES.

The following extracts from a communication sent by Dr. Polk to the *Times* are here printed because it is desired to do full justice to every one. The editor of the *Times* cannot take upon himself the decision of either questions of priority or of the professional standing of individuals; it does, however, seem only right to let any individual who has been assailed have opportunity to answer either as to priority of publication or professional standing. ED. P. M. T.

ORGANIC PHOSPHORUS COMPOUNDS.

By CHARLES G. POLK, M.D.

My first notice, in print, that the acid of the brain is hypophosphorous acid was in the *Tennessee Pharmacal Gazette*, November, 1874.

The same fact, however, is noted in my paper "Tabes Pulmonum," written in 1871, rejected by the editor of the *American Journal of Medical Sciences*, but published in the *Cincinnati Lancet and Observer* in 1877.

I am accused of plagiarizing. Without going behind my paper "Tabes Pulmonum," which settles the claims in my favor, I will meet the issue in front of it. I take, for instance, the "Hypophosphite of Oleine and Glycerin." It was an unsuccessful attempt at making a satisfactory compound representing the normal union of hypophosphorous acid with oleine and glycerin as found in the brain.

Now, I am not aware that any one previous to July, 1876, besides myself, had attempted this normal union of hypophosphorous acid with glycerin and oil. Where is their evidence?

Next, the "Hypophosphite of Oleine." In 1876 (October) I published a description of this compound, gave an improved formula, and called the attention of the reader to the fact that Dr. Percy had already published a formula in his "Essay on Phosphorus." (See *Druggists' Circular*, Oct. 1876, page 170.) Now, what author or discoverer would ask more?

As to "Protagon," or a solution of all the phosphorus compounds of the brain, I am not aware that any one had anticipated me in making this pharmaceutical "protagon," or that any one else even claims to have made it before March, 1877, or three months after I had introduced it. If any one had, I demand the evidence.

Instead of trying to steal any one else's preparation, I have had to contend with an attempt to take the manufacture of "protagon" out of my hands.

A preparation resembling mine in appearance, color, taste, and specific gravity, has been extensively advertised, but the original preparation has steadily come into use, and the sales continue to increase. Of this rival I do not complain. I contend that the best preparation will control the market, and that it is highly unprofessional to copyright a therapeutic agent. What say you, Mr. Editor? Is it not in violation of the Code of Ethics to copyright a medicine, or even prescribe one that is copyrighted?

The last charge I will here notice is that my article "Protagon" (*New Remedies*, Nov. 1876) was stolen from the circular wrapper of "Vitalized Phosphates." If any one cares to investigate, he will find this circular contains quotations from my papers "Protagon" and "Hypophosphite of Iron."

2349 CATHARINE STREET, PHILADELPHIA, PA.

PERSONALLY appeared before me, Dr. Charles G. Polk, of 2349 Catharine Street, who, being duly sworn, deposeseth:

That he is not the Professor of Surgery in the American University, Eclectic Medical College, or any other institution. That he is not in any manner whatever connected with either of the above institutions. That the chair of Surgery in the Eclectic Medical College was offered to and declined by him about eight months ago, and that since he has not filled or attempted to fill said Chair, nor did he ever deliver any valedictory address at the Commencement exercises of said institution, and never was present in his life at such exercises of the Eclectic Medical College or the American University.

He further deposeseth:

That the use of his name in the recent announcement of said Eclectic Medical College is unauthorized and without his consent. That he is observing in every respect, to the best of his knowledge and belief, the Code of Ethics of the American Medical Association, and deposing him as becometh a member of the regular profession.

CHARLES G. POLK, M.D.,
2349 Catharine St., Philadelphia, Pa.

Sworn and subscribed before me, this 4th day of December, 1877.

WM. B. COLLINS,
Magistrate's Court No. 2.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 16, 1877, TO DECEMBER 29, 1877.

BAILY, J. C., MAJOR AND SURGEON.—Assigned to duty at the Presidio of San Francisco, Cal., and to attend the sick at Point San José. S. O. 158, Division of the Pacific and Department of California, December 12, 1877.

BACHE, D., MAJOR AND SURGEON.—Assigned to duty at Benicia Arsenal, and as Attending Surgeon at Benicia Barracks, California. S. O. 158, c. s., Division of the Pacific and Department of California.

STORROW, S. A., MAJOR AND SURGEON.—Relieved from duty at the Presidio, and to comply with orders from Headquarters of the Army in his case. S. O. 158, c. s., Division of the Pacific and Department of California.

HARTSUFF, A., MAJOR AND SURGEON.—Assigned to temporary duty at Fort Gratiot, Michigan. S. O. 18, Department of the East, December 13, 1877.

WOODHULL, A. A., MAJOR AND SURGEON.—Until further orders, in addition to his present duties, to attend the sick at Angel Island, Cal. S. O. 158, c. s., Division of the Pacific and Department of California.

WATERS, W. E., CAPTAIN AND ASSISTANT-SURGEON.—To proceed to Fort Columbus, N. Y. H., to settle his public business, and on completion thereof report by letter to the Surgeon-General. S. O. 255, A. G. O., December 15, 1877.

BROOKE, JOHN, CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post Surgeon at Newport Barracks, Kentucky. S. O. 199, Department of the South, December 14, 1877.

SMART, CHARLES, CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 260, A. G. O., December 21, 1877.

PHILLIPS, H. J., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and granted leave of absence for three months, on Surgeon's certificate of disability, from January 1, 1878. S. O. 257, A. G. O., December 18, 1877.

KING, J. H. T., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, on Surgeon's certificate of disability. S. O. 214, Department of Texas, December 19, 1877.

HAYARD, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort A. Lincoln, D. T. S. O. 177, Department of Dakota, December 20, 1877.

DAVIS, WM. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Totten, D. T. S. O. 177, c. s., Department of Dakota.

DE GRAW, C. S., CAPTAIN AND ASSISTANT-SURGEON.—His resignation accepted by the President, to take effect January 1, 1878. S. O. 257, A. G. O., December 18, 1877.

PHILADELPHIA, JANUARY 19, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE ON A CASE OF CONGENITAL SYPHILIS.

BY WILLIAM GOODELL, M.D.,

Professor of Gynæcology in the University of Pennsylvania.

(Reported for the Medical Times.)

GENTLEMEN,—I wish to show you to-day this specimen of syphilitic infection during uterine life, and also to say a few words to you in season concerning the danger incurred in delivering a patient suffering from syphilis.

The mother of this dead infant has been in labor eight times, and each labor has been premature. The first four children were born between the fifth and the seventh month, the last four after the seventh month. Four of the children were still-born, and none of the others has lived more than a day or two after birth.

The woman was in labor for the eighth time last week. The case turned out to be one of brow presentation, and I put on the vectis. As soon as the child was born it began to cry in a peculiarly hoarse manner, and in a very short time the characteristic bullæ made their appearance,—first on the feet of the child, then over the rest of its body. I saw at once that the case was hopeless; but, as it is a doctor's duty to save life, I had the child thoroughly anointed with mercury daily: all in vain, however; it was born on Friday, and died on the following Tuesday morning.

The best means of anointing a new-born child with mercury is the following. Tell the nurse to rub the ointment each day well into the belly-band. When one band becomes so covered with the ointment that it begins to get stiff, start with a new one. You will be astonished to see the improvement which will sometimes take place in a week or two in a syphilitic child thus anointed. As a general rule, however, the doom of nature has gone forth, and the poor little things very rarely live more than a few days. They may, perhaps, be almost cured of the eruption, when albuminoid degeneration of the liver or of the spleen, or a cheesy pneumonia, supervenes and carries them untimely off.

VOL. VIII.—8

Now, I ran a very considerable risk in attempting to deliver this woman whom I knew to be infected with syphilis, and all of whose previous children had died before or immediately after birth as the result of syphilitic disease during uterine life. I ran a very serious risk of infecting my hand, and so my constitution, with the syphilitic poison. I can relate to you quite a number of cases bearing on this point.

In my medical class was quite a gifted young fellow from New England. He was very well up in his studies, and confident of obtaining a diploma, when, just as he was about to graduate, an eruption appeared upon his face, and the Dean of the Faculty refused to grant him a diploma, recognizing the eruption as that of syphilis. It turned out that the poor fellow had been spending his vacation at Deer Island, near Boston, where there are a great many prostitutes, and had attended several of these women and treated them for syphilis. Upon his return to this city in the autumn he brought back a very troublesome hanging-nail on one of his fingers, which refused to heal in spite of all treatment. He never suspected this to be a chancre until the eruption appeared.

He sent to Deer Island and obtained documents authenticating the facts of the case, and upon the strength of these papers the Faculty determined to grant him his diploma, and upon graduation-day a friend went upon the stage and received it for him. Subsequently he settled in the West, and after a prolonged course of mercury thought that he had wholly got rid of the disease, and married. All the children his wife bore him were rotten with syphilis, and dead-born. On the birth of the fifth child afflicted in the same sad way, the father went into his room, locked the door, and shot himself.

I know of several doctors in this city who were infected with the disease in labor cases. One lost all his hair and beard. Another had a sore on his finger which obstinately refused to heal. He saw several of the best doctors in Philadelphia,—authorities on such matters,—and they could see nothing specific in the sore. I told the doctor that I did not pretend to know anything about syphilis except as it appeared in new-born children, and yet that I felt absolutely certain, from the facts of the case, that what he regarded as a simple sore was in reality a chancre. The man

ridiculed the idea utterly. By and by the sore healed, and the doctor's health grew worse and worse, until finally an eruption broke out on his forehead; then he believed me.

Some years ago I had an obstinate sore of the same kind on my own finger. I went to Prof. Agnew, and he told me it was a chancre, and cauterized it. You may be sure that I was a thoroughly miserable man for some time afterwards; but fortunately it passed away without infecting my constitution.

The tainted liquor amnii of a syphilitic foetus is abundantly able to inoculate the accoucheur with the poison. If the circumstances are such that you cannot get out of attending such a case, the safest method for you to pursue is to grease your hand and arm well with carbolized oil before touching the parts, then, as soon as the child is delivered, run out and wash them thoroughly with carbolized soap.

Braun, of Vienna, says that in spite of his advice and admonitions a number of his students are infected in just this way every year.

Congenital syphilis may appear either before or after birth. The labor is usually premature, and the first symptom of the disease is the hoarse cry to which the child gives utterance. The bullæ will soon show themselves. The disease in utero takes the form of placentitis, the exudation presses the blood out of the small capillaries and so gradually starves the product of conception; or there may be a gummy tumor or fatty degeneration of the placenta, so causing premature labor. In some cases the labor is precipitated by atheroma of the vessels of the cord.

Why does the child give utterance to a hoarse cry as soon as it is born? Undoubtedly because there are already syphilitic ulcers on the mucous membrane of its throat and air-tubes. Such children are always puny and sickly-looking. The bullæ appear in the course of a few hours after birth, and are first visible on either the scrotum, hands, or feet.

But suppose the child shows none of the signs of syphilis at birth or within the course of a few days: when is the disease most likely to reveal itself if it really exists? It usually begins some time between the second week and third month after birth. How does it begin? The child, though entirely well in other re-

spects, cries a great deal at night. This crying is caused by the incipient bone disease,—pains in the bones. Its cry, too, is muffled and hoarse. A third symptom is the snuffles; the child's nose is all stopped up,—a scalding coryza comes on. Then the child grows wizened and thin, and its skin lies in rolls and wrinkles, more like parchment in consistency than skin. The so-called *copper* maculæ show themselves, or the complexion gradually assumes a coffee-and-milk hue. Then the eruption comes out all over the body, and stamps the case indisputably as one of syphilis.

In some instances it is very hard to find out whether the mother has the disease herself or whether the father has been the only instrument of inoculation. In this connection you will often be able to note the curious fact that an apparently uninfected mother can nurse her syphilitic child with impunity, whereas the child is sure to communicate the disease to a healthy wet-nurse.

Should a syphilitic child be knowingly allowed to draw its sustenance from a wet-nurse, and the nurse be so inoculated, she has just grounds for an action at law against the parents of the child.

As I said above, treatment is generally hopeless. It is a wise law of nature which sentences all such vitiated and diseased products to early death. Of course all the physician can do is to subject the child to a brisk mercurial treatment. In some rare cases you may be able to cure and save such children, but as a general and beneficent rule they die in the course of a few days or few weeks.

ORIGINAL COMMUNICATIONS.

A CASE OF ANEURISM OF THE THORACIC AORTA, WITH UNUSUAL PHYSICAL SIGNS.

BY WILLIAM PEPPER, A.M., M.D.,

Professor of Clinical Medicine in the University of Pennsylvania.

S.ÆT. about 38 years, had followed the sea from the age of 16 years. He was admitted to the Pennsylvania Hospital July 28, 1877, suffering with symptoms of bronchitis, which were soon relieved, and he was discharged. He was admitted to the University Hospital on November 12, 1877. He stated that he had enjoyed very good health until July last; and that since his discharge from the Pennsylvania Hospital he had been

The treatment consisted in the free administration of opium, digitalis, and quinia, with gallic acid and ergot to arrest the hemorrhage.

The post-mortem examination was made twenty-four hours after death. The sternum was removed, and the thoracic organs were examined first *in situ*. The pericardial sac was decidedly enlarged. The right lung was somewhat emphysematous, chiefly along the anterior margin; the upper lobe was partially collapsed. The upper lobe of the left lung came forward as far as during moderate inspiration, while the lower lobe was somewhat pushed backwards by the distended pericardium. On cutting open the pericardium there were thick shaggy layers of lymph over both surfaces of the pericardium, with about half a pint of turbid serum in the pericardial sac. The heart was moderately enlarged, its apex corresponding to the point where impulse was noted during life.

The right lung presented at its apex a cluster (three or four) of round cheesy nodules, encapsuled by fibrous tissue, and only softened in points; otherwise its tissue was healthy.

The upper lobe of the left lung presented a curious combination of several large peripheral hemorrhagic infarctions, with complete collapse, of long standing, of the remainder of its tissue. These latter parts were tough and leathery. The posterior part of the upper lobe was not so completely collapsed as the anterior.

The lower lobe presented externally a mottled appearance, patches of purplish black being thickly scattered over the surface. On section it seemed uniformly consolidated. Any portion of it sank immediately in water. The tissue, as seen in section, was red, resembling closely a blood-clot; it was too friable, and in places was slightly granular.

On raising the upper lobe of the left lung, and carefully tracing upwards the arch of the aorta, it was found normal till after the great vessels had been given off. At the beginning of the descending thoracic aorta it expanded into an irregularly spherical tumor, which had hollowed out for itself a space in the tissues of the central part of the left lung. This aneurismal sac, which was about two and a half inches in diameter, pressed on the trachea to some extent, but it had pressed so strongly on the left primary bronchus as to have caused gangrenous ulceration, which had finally entirely severed the bronchus. At this point of pressure the aneurismal sac had given way, so that the blood had escaped partly into the left bronchus, which was filled with soft clots, and partly into the tissue of the root of the lung. There was only a slight degree of atheroma of the aorta either above or below the seat of the aneurism. The œsophagus was compressed in a slight degree by the aneurismal tumor.* There were no mor-

bid changes found in any of the abdominal organs.

REMARKS.—The above case presents various points of interest, of which the most important concerns the diagnosis. Owing to the entire want of history of previous symptoms, and of any complaint referring to the chest, no careful physical examination was made for several days. The results then obtained were certainly somewhat puzzling. The entire flatness over the upper lobe of the left lung anteriorly, associated with absence of breath-sounds, and with great feebleness of vocal fremitus and resonance, suggested the possibility of a circumscribed pleuritic effusion. The general symptoms at first were not opposed to such a view. But, in the first place, it is almost inconceivably rare for a localized pleurisy, with encysted effusion, to occur at the apex. Again, it could hardly be supposed, in the event of such a rare occurrence, that the fluid would be in such quantity as to prevent the transmission of some bronchial breathing from the trachea or primary bronchus. Nor would we expect to find the upper lobe of the lung compressed so forcibly backwards that there should be no vesicular murmur audible over its posterior surface. The marked distention of one of the cutaneous veins was also opposed to this view. Finally, the appearance of hæmoptysis would have been very difficult to explain on this supposition.

Still more was it impossible to consider the symptoms as due to plastic pleurisy limited to the upper lobe of the left lung.

There is, however, one form of circumscribed collection of fluid in the chest which gives rise to physical signs that might be confounded with those in the present case. I refer to hydatid cysts in the lungs. The favorite seat of these formations is near the apex, where, as they develop, they push back the lung and give rise to absolute dulness on percussion, impairment or absence of vocal fremitus, and entire absence of respiratory murmur. In addition to this there may follow, if the pressure on the lung-tissue is rapidly developed or reaches a high degree, pneumonia or gangrene of the lung, with bloody sputa. These remarkable physical

time on the day after his death. She then stated that for some time there had been more or less difficulty in swallowing solid food, and also some hoarseness of voice. These symptoms were not mentioned by the patient himself during the time he was under observation.

* The wife of the patient came to the hospital for the first

signs, which are stated by Bird,* who has had unparalleled opportunities of studying this affection in Victoria, where it is endemic, to be of frequent occurrence, present many points of resemblance to those in the case of S. Apart from the extreme rarity of hydatid disease of the lung in this country, the following important diagnostic points were noted :

Bird says that the area of dulness due to a hydatid cyst always presents a sharply-defined rounded outline, whereas in the case here reported the dulness corresponded more closely with the area of the upper lobe of the left lung. Again, the amount of irritation of the surrounding lung-tissue, the degree of febrile action, and the frequency and profuseness of the hæmoptysis, were much greater than is usual in cases of hydatid cyst. It must be admitted, however, that it would have been possible for such a cyst, which had developed rapidly and had caused such intense pressure on the main bronchus and surrounding lung-tissue as to induce pneumonia and gangrene, to give rise to all the symptoms and signs which were here present. It was therefore chiefly in consequence of the great rarity of such a growth in this climate that its existence was negatived and the idea of an aneurism entertained.

On the other hand, it was necessary to exclude carefully the existence of consolidation of the upper lobe of the left lung. Simple pneumonic consolidation was excluded by the seat of the lesion and the mode of development of the disease, no less than by the peculiar physical signs. But it was not so easy to decide that there was not tuberculous infiltration of the upper lobe with obstruction of the main bronchus by a firm clot or by pressure of enlarged bronchial glands. In favor of this view were the history, which, though vague and imperfect, pointed to continuous cough and expectoration, the evidences of circumscribed cheesy formations at the right apex, the irregular hectic fever, the hæmoptysis, and the dulness on percussion over the left upper lobe. But it was evident that if there was pulmonary consolidation there must also be complete obstruction of the bronchus leading to the upper lobe, so as to explain the absence of all respiratory sounds, and of vocal fremitus

and resonance. It was extremely improbable that enlargement of a bronchial gland should exist to such an extent as entirely to occlude this bronchus. It was evident that the hemorrhages came from the left lung, and, although it was not actually impossible that the bronchus leading to the upper lobe should be obstructed by a firm clot, while hemorrhage continued to occur from the lower lobe, it was very unlikely. But, moreover, such consolidation of the upper lobe would not have accounted for the presence of the distended cutaneous vein which has been described, nor for the displacement of the heart downwards and to the left.

A careful review of the arguments for and against the various conditions I have named led to the conclusion that the physical signs were due to collapse of the upper lobe of the left lung from occlusion of its main bronchus by the pressure of an intrathoracic tumor. The existence of a hydatid cyst being further excluded, it seemed probable that the tumor was aneurismal rather than solid in character. Had it been of this latter character, the existence of localized disease at the right apex would have rendered its cancerous nature probable. But there was no external primary growth; there was no cachexia nor emaciation; the age of the patient was opposed to such a view; and, finally, the repeated copious hemorrhages and the rapid development of the pulmonary lesions were also opposed to it. The indistinct pulsation in the second left intercostal space which appeared only on the day before death might have been expected on either supposition, as a solid growth lying in contact with the arch of the aorta might readily have a pulsation communicated to its mass. The diagnosis that was formulated during life was, therefore, that there was an aneurism of the descending thoracic aorta, entirely covered by the upper lobe of the left lung; that it had occluded by its pressure the bronchus leading to the upper lobe of that lung; that an ulcerated or gangrenous opening was forming between the aneurism and the bronchus; that there were small cheesy formations at the right apex. It will be seen that the post-mortem examination confirmed this view; and incidentally it has been shown how this condition accounted for the very unusual symptoms and physical signs that were present.

The existence of pericarditis was sus-

* On Hydatids of the Lung. By J. Duncan Bird, M.D. Melbourne, 1877.

pected during life; but the absence of friction-sounds, the position of the apex-beat, and the impossibility of determining satisfactorily the boundaries of cardiac dulness, made it difficult to decide upon. I would ask attention to the reduplication of the second sound, which is a more frequent sign of pericardial exudation and adhesions than is usually recognized.

There is nothing positive known as to the cause. The patient's occupation, the absence of any history of injury, the old cheesy nodules at the right apex, the patches of endarteritis on the aorta, all confirm the suspicion that it may have been connected with constitutional syphilis.

The case also presents considerable interest from a pathologico-anatomical point of view. The position of the aneurism, flattening out the upper lobe and entirely concealed by it, the gangrenous destruction of the bronchial tube, and the combination of complete collapse of the upper lobe of the lung with several large hemorrhagic infarctions, may be specially noted. But still more interesting was the condition of the lower lobe, which presented complete consolidation, due to coagulation of blood in its vesicles and minute bronchioles. This lesion was marked during life by such rapidly developing physical signs, and there were at the same time such marked febrile symptoms and progressive rise in temperature, instead of the more usual symptoms of extensive hemorrhage, that the comparatively small amount of pneumonia is specially instructive.

TWO CASES OF INTRA-UTERINE, SUBMUCOUS, FIBROID TUMOR SUCCESSFULLY TREATED BY THE USE OF ERGOT.

BY HENRY BRUBAKER, M.D.,
Somerset, Pa.

THIS brief contribution to the therapeutical treatment of intra-uterine fibroid tumors is made, chiefly, for the encouragement of those who might hesitate in its employment, under the apprehension that it involves much greater danger to life than the surgical treatment. I have no statistics at my command showing the relative success of the two methods of treatment, and consequently cannot express a decisive opinion on the subject. In the absence of statistical evidence to the contrary, and judging from the num-

ber of cases reported by European and American practitioners as successfully treated, I assume that the therapeutical treatment by means of ergot, either hypodermically or by mouth, is as successful as the surgical treatment, and hence worthy of trial in all suitable cases by practitioners who are unskilled in surgical methods. My own experience is limited to two cases, and these were by no means favorable ones to begin with. Both of them had been greatly reduced by profuse and prolonged menorrhagia during a period of five years, having been usually confined to the recumbent position two out of every four weeks from this cause. One of them had been confined to her bed with chronic diarrhœa and œdema of the lower extremities nearly three months immediately preceding the treatment. Both of them being in this enfeebled condition for so long a time were certainly not the most favorable cases to be subjected to a treatment which, by eminent authorities, is regarded as perilous from the probable occurrence of septicæmia. But as no alarming symptoms were developed during the treatment of these cases, so apparently unpromising, the presumption is that with judicious management and under favorable circumstances the large majority of them could be successfully treated. I do not wish to be understood as saying that this method of treatment is preferable to the surgical. The latter has many advantages. The former is slow, tedious, painful, and offensive to both patient and physician. Not so the surgical. But many country practitioners who have a natural repugnance to surgical methods of treatment may encounter cases which demand prompt attention, and in which the treatment by ergot would be preferred by the patient. To such, at least, it is hoped, this article will be acceptable as well as useful.

Case I.—Mrs. S., æt. 43, had been suffering from a profuse and exhausting menorrhagia for five years. Her trouble began after the birth of her first and only child. No examination had ever been made with the view of ascertaining the existence of any morbid growth before consulting me, although she labored under the apprehension that such growth existed. In June, 1875, she placed herself under my care. Abdominal palpation alone was sufficient to disclose the existence of a tumor of some kind, as it was easily recognizable through the abdominal walls, and this conjoined with the vaginal touch proved

it to be intra-uterine; but a more thorough exploration of the cavity of the uterus was necessary to demonstrate its true nature. Consequently, having previously dilated the cervical canal with sponge tents I was enabled to diathoscate a fibroid tumor, as well as the situation and extent of its attachment. The tumor proved to be the size of the foetal head, with a broad attachment to the fundus and left side of the uterus. Satisfied from my exploration that I had a submucous fibroid tumor to deal with, I at once resolved to attempt its destruction with ergotin. Without entering into tedious details, suffice it to say that I began to administer the ergotin in five-grain doses hypodermically, part of the time daily, and part of the time on alternate days, according to the effect produced, for a period of three weeks. The action of the ergotin was prompt and decided, producing severe and prolonged uterine contractions, as evidenced by the severe pain, and hardening and consolidation of its tissue, perceptible through the abdominal walls. The pain was often so severe as to require the administration of an opiate, and continued several hours. Indeed, the process set up in the uterus was, to all intents and purposes, similar to labor,—a protracted labor of three weeks' continuance,—with intervals of rest after the action of the ergotin was expended. After the ergotin had been used for probably a week or more, its action appeared to be continuous, the uterus remaining firmly contracted without any marked relaxation. At the end of three weeks my patient, who had been having for several days a very offensive vaginal discharge, called my attention to something protruding from the external genitals. On making an examination I unexpectedly, and to my great gratification, detected a fragment of the tumor, half the size of a fist, sloughing away, which I removed with my hand. Another portion was still protruding from the os uteri. It was evident now that the tumor was sloughing. Several days after, another fragment was removed, and at the expiration of another week the remaining portion, the size of an orange, was expelled into the vagina with its attachment to the uterine walls still firm. Satisfied from the solidity of this remaining portion that the sloughing process had ceased, I applied a ligature by means of a Gooch's double canula, which being tightened daily for a few days, the tumor dropped off, which I then removed from the vagina by means of a polypus forceps. No untoward symptoms followed.

Case II.—Mrs. B., æt. 37, the mother of three children, consulted me in May, 1876. Her condition differed very little from that of Mrs. S. No difficulty was encountered in making up a diagnosis. The tumor was the same size, and its attachment about as extensive. As she dreaded the hypodermic syringe, I concluded to try the effects of the fluid ex-

tract of ergot by mouth, in one-ounce doses daily. Its action was as prompt and decided as in the preceding case. At the end of three weeks the sloughing process was fairly established, but was much more decided and complete than in the other case. On examination I found a portion protruding from the os uteri, which I removed. In a few days more, under the continued use of the ergot, the entire mass was extruded from the uterus into the vagina. This I enucleated without any difficulty, and without the least hemorrhage, from its attachment, with my finger-nails, and thus completed its removal.

These two cases, yielding so promptly, and having been attended with so little disturbance to the constitution, embolden me to promise like favorable results to others who may be disposed to adopt the therapeutic treatment.

But it must not be forgotten that we are admonished by authors whose opinions are not to be disregarded that no little danger attends this method of treatment. Septicæmia is regarded as almost certain to occur; and certainly the presence of so large a sloughing mass in the cavity of the uterus should be a sufficient cause for apprehension of serious, if not fatal, consequences, from the absorption of septic material. Still, is it not possible that the dangers from this source have been greatly exaggerated? In *puerperal* cases, where traumatic lesions exist, a woman could scarcely be expected to escape serious blood-contamination from the decomposition of coagula of blood or portions of placenta retained in the uterus, and it is possible that septicæmia only does supervene in cases in which such lesions exist. The puerperal woman, and the woman with a sloughing tumor, are not parallel cases. In the former, traumatic lesions do exist, the internal surface of the womb being regarded after the detachment of the placenta as a vast wounded surface. Nothing of the kind necessarily accompanies the sloughing of a tumor. The latter process is more like that of mortification, in which nature takes the precaution to close up the blood-vessels of the living textures by the exudation of plastic material, and thus prevents the absorption of putrescent substances. Furthermore, it is not yet absolutely demonstrated that absorption of septic material does take place from a mucous surface in a state of integrity. Then, again, is it not possible that the ergot, which is known to produce

such complete contraction of the capillary blood-vessels as to arrest hemorrhage, would not also arrest absorption? Along with the condensation of the uterine tissue produced by the action of the ergot there will be a temporary obliteration of its capillaries, and as a consequence it may be presumed that the process of absorption will be materially impaired, if not wholly arrested. As some high authorities maintain that traumatism is essential to the absorption of septic material, we may not be far wrong in associating traumatism and septicæmia as cause and effect. As a matter of course, in hospital practice, where patients are constantly liable to exposure to toxic influences, the danger would be imminent; but the risks incurred in country practice, where we have the benefit of pure air and the most favorable hygienic influences, would be greatly lessened.

In both these cases, however, I anticipated the dangers from septicæmia, and consequently commenced the liberal use of alcoholic stimulants and quinia simultaneously with the ergot, and kept my patients under their influence throughout the entire period of treatment. And this I regard as a matter of immense practical importance, and it may be owing to this precautionary measure in part, at least, that they escaped septic poisoning. If these remedies are curative of septicæmia, may they not also exert a prophylactic influence? I cannot see any valid reason for denying them this power. I would insist, then, that throughout the period of treatment with the ergot the patient should not only be supported by a nutritious diet, but that, to guard against the danger from septicæmia, quinia and alcoholic stimulants should be liberally administered.

In conclusion, I wish to make a few strictures upon a case of "Spontaneous Expulsion of a Large Intra-Uterine Fibroid Tumor," reported some months ago by Dr. R. Osgood Mason to the New York Pathological Society. Viewing the case in the light of my experience as recorded in this article, I must be permitted to demur to the term "spontaneous" as used in this connection by Dr. Mason. For, in his report, he says, "When the case came under my observation I learned that she had been taking pretty large doses of ergot for two or three weeks without any apparent benefit," and that "a few days later I saw her at her home, when she showed me some

membranous shreds, and also some distinct fragments of a fibrous tumor, which she had been passing for two or three days. After this, fragments of considerable size were daily torn off, and in twenty days from my first examination the last fragment came away."

The expulsion of this tumor in fragments, after using the ergot for two or three weeks, is presumptive evidence that it was the result of a sloughing process induced by this agent. This is certainly the most reasonable view to take of the case. In the absence of any other known cause of the expulsion of the tumor, and with the conceded powers of ergot to produce such a result, it is fair to conclude that instead of a spontaneous, it was a case of induced expulsion brought about by the ergot. Should this article meet the eye of Dr. Mason he will doubtless see reason for agreeing with me in this opinion, which is not advanced in the spirit of controversy, but in the interests of scientific truth.

FACIAL PARALYSIS FROM EAR DISEASE.

BY CHARLES SHAFFNER, M.D.,

Assistant Surgeon in the Eye and Ear Department of the Philadelphia Dispensary.

AMONG the rather rare complications of suppurative inflammation of the middle ear is facial paralysis,—an extremely disagreeable condition for a patient to be in, not only because his normal features are disfigured, but also his powers of mastication, speech, and the accompanying play of the features are much impaired, while the eye is threatened with destruction from the loss of its natural muscular covering. The following case beautifully illustrates this condition:

M. C., an Italian woman, 52 years old, applied for treatment on May 26, 1877, at the Eye and Ear Department of the Philadelphia Dispensary. She was in poor health, weak, and overworked. She had had no acute ear disease before the attack now to be related, while the right ear has been for some time affected with otitis media chronica catarrhalis.

About December 18, 1876, she was suddenly attacked with a severe coryza, sore throat, swollen cheek, great pain in the left ear, and about the same time the left side of her face was paralyzed, which condition still exists. On examination the lining membrane of the left external auditory meatus was found to be

swollen, some slight thick and green discharge to exist, and tinnitus to be present. On testing the ears with the watch, R. E. = $\frac{12}{48}$; L. E. = $\frac{0}{48}$.

To the tuning-fork the right ear was about normal, while she did not hear it at all in the left ear. The membrana tympani was thickened and retracted in the right ear, and a recent perforation was found in the left membrane. The Eustachian tubes were pervious. She complained of dryness and burning on the left side of the pharynx. The nasal passages were clear.

There was marked paralysis of the left side of the face, terminating rather abruptly at the median line. The wrinkles on the left side of the forehead and face were all effaced, and the side was smooth and shiny as in a person much younger. The left orbicularis palpebrarum was totally paralyzed, the eye being wide open, and could not be closed on strong effort. This had caused dryness of the cornea, with cloudiness and commencing ulceration. Vision was much diminished,—counting fingers at two and a half feet. The mouth was drawn to the right side, and liquids escaped from its left angle on efforts in swallowing. Its right side only could be puckered when she attempted to whistle. The tongue protruded to the right side. She complained of dryness of the left side of the mouth and pharynx, making it difficult to masticate on that side and to swallow solids, so that her food was mostly semi-solids and fluids. She frequently bit her left cheek, and the bolus of food would lodge between it and the gum. She noticed she had more taste on the right side. Tactile sensibility was undiminished.

We treated her by giving tonics and good food, finally sending her to the sea-shore for the summer.

The left ear was carefully kept clean by the syringe, and the suppuration finally checked by the use of a solution of zinc sulphate gr. v to fʒi.

The eye was strapped shut with little strips of sticking-plaster, which were removed every day, the eye cleansed, and the plaster replaced. This treatment caused marked improvement in the eye, so that on June 20, 1877, vision had come up to counting figures at eighteen feet. Her friends were shown how to apply the strips, and she was sent to the sea-shore.

She returned to the dispensary on December 12, when we found the perforation in left membrana tympani was still patulous and about one line in diameter. The otorrhœa was absent. Hearing in R. E. $\frac{2}{48}$; L. E. $\frac{0}{48}$. The facial paralysis had greatly improved, and many wrinkles had returned, especially on the cheek and about the mouth. The forehead and left temple were still rather smooth and shiny.

She can now shut the left eye, but not tightly, and the angle of the mouth is still im-

paired in motion. There is a small chronic ulcer of the cornea, for which calomel was insufflated. Vision has improved to counting fingers at twenty feet.

To understand this case thoroughly we should bear in mind the course and function of the facial nerve and its chorda tympani branch. Entering the internal auditory meatus with the auditory nerve, it passes through the aquæductus Fallopii, and follows the serpentine course of that canal through the petrous portion of the temporal bone to the stylo-mastoid foramen to be distributed to the muscles of the face and upper part of the neck, and is the motor nerve of the face. The aquæductus Fallopii runs in the internal wall of the tympanum, and is covered by an extremely thin plate of bone.*

The chorda tympani branch is given off from the facial nerve at the back of the tympanum, and in its course passes through the cavity of the tympanum, becoming covered with mucous membrane,† and finally meets the gustatory nerve, and is distributed to the submaxillary gland, submaxillary ganglion, and lingualis muscle.

As for its function, it is more connected with taste than with hearing.‡ “The integrity of the chorda tympani appears to be essential for the proper exercise of taste.”§

Thus we see that both these nerves are exposed to the full force of inflammations of the middle ear, such as our patient had at the outset of her troubles, when she had the severe otalgia. Any swelling of the mucous membrane of the tympanum may press on these nerves and arrest their function, or an inflammation may extend to them, and, by involving and destroying their tissue, create permanent facial paralysis and diminution of taste.

The indications for treatment are to relieve inflammation, stop suppuration with the syringe and astringents, protect the eye from dryness and foreign bodies, and stimulate the muscles with electricity. If degeneration of the nerves exists, the electricity will be useless, the paralysis permanent, and the muscles will become flaccid and partly absorbed.

Thus we are taught that an otitis media suppurativa is not entirely harmless and should not be neglected.

23 SOUTH SIXTEENTH ST., December, 1877.

* Roosa, Treatise on the Ear, p. 198.

† Gray's Anatomy, p. 542.

‡ Roosa, Treatise on the Ear, p. 230.

§ Smith's Marshall's Physiology, p. 376.

TRANSLATIONS.

THERAPEUTICS OF SALICYLIC ACID AND ITS COMPOUNDS.—From a protracted discussion on this subject before the Academy of Medicine of Paris, as reported in *Le Progrès Médical*, No. 36, 1877, pp. 690-692, the following points may be collected as interesting. On account of the irritating properties of the acid when used alone, it is preferable to use one of its salts, such as the salicylate of sodium, potassium, or lithium; and of these the sodium salt is least irritating, least disagreeable to the taste, and, in addition, is very soluble. No authenticated case of sudden death during the use of the remedy was mentioned, though doses amounting to 120 grains and 180 grains in twenty-four hours were given. Its value in acute articular rheumatism seems incontestable after the results of Sée, Hérard, Hardy, and Jaccoud, as reported to the Academy; some cases were mentioned where there was little or no benefit derived, but these had been treated with smaller doses than the patients of the clinical observers mentioned. The testimony in cases of chronic articular rheumatism is not so unanimously favorable. M. Sée states that the salicylic treatment should be extended to gout, as he has had good results in such cases; the experience of this one authority has not as yet been fully substantiated by other observers. The action of the drug in neuralgias has not been very fully tested as yet, but its power to cause diminution of temperature is considered to be tolerably well established. The remedy has been employed in typhoid fever, diphtheria, etc., with varying success, but further experimentation is required before the true position of salicylates in these affections can be determined.

J. B. R.

BORAX AND NITRATE OF POTASSIUM IN SUDDEN HOARSENESS.—These two salts have been employed with advantage in cases of hoarseness and aphonia occurring suddenly from the action of cold (see *La France Médicale*, No. 86, 1877, p. 682). The remedy is recommended to singers and orators whose voices suddenly become lost, but which by this means can be recovered almost instantly. A little piece of borax the size of a pea is to be slowly dissolved in the mouth ten minutes before singing or speaking: the remedy provokes an abundant secretion of saliva, which

moistens the mouth and throat. This local action of borax should be aided by an equal dose of nitrate of potassium, taken in a warm solution before going to bed.

J. B. R.

PARAPLEGIA CONNECTED WITH MENSTRUATION.—In the course of a recent clinical lecture, Prof. Peter (*Gazette des Hôpitaux*, 1877, p. 932) showed the two following cases. The first was a girl of 22, not hysterical, in whom the menses became suddenly suppressed following the administration of an emeto-cathartic. She presented formication in the lower limbs, pains in the loins, genuine incomplete paraplegia. The second was a girl, who had presented for two days formication, considerable enfeeblement of the lower limbs, with diminution of sensibility,—phenomena which disappeared almost entirely when the menses appeared. With reference to these cases M. Peter insisted, on the one hand, upon the relation so distinctly manifested in the first case between the disappearance of the menstrual discharge and the occurrence of paraplegia; and, on the other hand, on the coincidence between diminution of the paralysis and the normal evolution of menstruation in the second case. The relationship between the two phenomena just mentioned is not universally admitted. M. Hallopeau says that suppression of the menses does not give rise to congestion of the spinal cord; that this suppression may be due to an accident or to a physiological phenomenon, as the menopause; others, among whom may be cited Prof. Jaccoud, agree with M. Peter in believing that the arrest of the menstrual flow often gives rise to rachidian congestion, perfectly demonstrable post mortem, and susceptible of giving rise to transient disorders of spinal innervation. These nervous phenomena follow a course varying with the epoch of their appearance. When they appear in the period of utero-ovarian activity, they are sudden in their onset and acute in their course. When they show themselves at the time of the menopause, these disturbances of sensation and motion are slow, progressive; they develop little by little, so to speak, until they finally attain consummation in paraplegia. (*Gaz. Hebdom.*) x.

PODOPHYLLIN IN HEPATIC COLIC, BILIARY CALCULI, AND INTESTINAL CATARRH.—In addition to the well-known action of podophyllin in overcoming habitual con-

stipation, a new effect of this remedy has recently been observed, namely, the relief of hemorrhoids. Besides this, Dr. Bufalini has suggested its use in hepatic colic, etc. M. Van den Corput recognized some time since the favorable action of podophyllin in hyperæmia of the liver with stasis in the vena porta, the amount of bile being increased, while at the same time the solid constituents of this secretion are augmented. M. Bufalini had under his care recently a woman, 45 years of age, who had long suffered from hepatic colic. She was accustomed to use violent purgatives which brought away voluminous calculi, giving marked relief on each occasion. The use of purgatives had induced intestinal catarrh, notwithstanding which M. Bufalini prescribed small doses of podophyllin,—1 centig. ($\frac{1}{8}$ gr.),—under the somewhat prolonged use of which the patient entirely recovered. In another similar case $\frac{1}{8}$ gr. of podophyllin was taken daily for some time, to the entire relief of the patient. Bufalini explains the action of podophyllin by the fact that it excites the formation of the biliary secretion, while facilitating its flow, thus preventing the retention and aggregation of those matters which go to make up biliary calculi, and rendering the formation of these aggregations impossible. He also considers podophyllin in small doses beneficial in intestinal catarrh on account of its action in promoting the flow of the bile into the intestine, and thus regulating its functional activity.

x.

A SIGN OF IMMATURITY IN NEW-BORN CHILDREN.—Küstner (*Cbl. f. Gynäkologie*, 1877, No. 9) calls attention to white comedones which are found on the face and forehead, and particularly on the under lips and chin, of infants born before full term. These enlarged and choked sebaceous glands are found in smaller numbers the more mature the foetus is, until when it is born quite mature the plugged-up glands are only observable on the point of the nose.

x.

THE HYPNOTIC ACTION OF LACTATE OF SODIUM.—Bötticher (*Berlin. Klin. Wochens.*, 1877, No. 37), having examined this subject, comes to the following conclusions. Lactic acid, so far as it has been tried, has proved incapable of producing sleep invariably and in all cases. It is, therefore, an uncertain hypnotic, and is incapable of replacing morphia and chloral in diseases

when sleep is desired. Its hypnotic effect is more certain in the young than in adults, in women than in men. When sleep follows, it sets in one to two hours after the medicine has been taken. The hypnotic effect is less marked when it is taken on an empty than on a full stomach, more marked in the evening than during other periods of the day. No period of excitement goes before the sleep, but disagreeable concomitant symptoms sometimes show themselves, especially in the digestive tract. Lactic acid has no anodyne action. If lactic acid were regular in its effect, it would be preferable to other hypnotics, because it is one of the normal substances appearing in the organism. Besides the hypothesis that the collection of lactic acid in the organism is the cause of rheumatism, it has been asserted by Rauch that it gives rise to parenchymatous inflammation of the endocardium and valves. Goltz found that after prolonged use of lactic acid the red corpuscles become dissolved, fatty degeneration of the liver, kidney, and heart ensues, and ecchymoses and even hemorrhage from the mucous membrane of the stomach may result.

x.

ACTION OF HYDROCYANIC ACID ON THE CIRCULATION AND BLOOD.—Rossbach and Papitzky (*Cbl. f. Med.*, 1877, p. 640; from *Wörzb. Phys.-Med. Verhdlg.*, 1877, x. s. 205) make the following statements. That retardation and stoppage of the heart's action, which is caused in frogs by the action of hydrocyanic acid, is not in the least influenced by atropia, although the inhibitory nerves of the heart may be paralyzed. It results from this that the action of hydrocyanic acid upon the heart occurs without intervention on the part of the vagus fibres. In warm-blooded animals the heart's action was less involved than Preyer has asserted. The pressure at first rises abruptly, but soon falls again below the normal to rise once more to the normal line and then once more to sink continuously to zero. The frequency of the pulse, on the other hand, shows no immediate increase, but begins at once to diminish, while the energy of the individual beats is increased. Later the pulse becomes more frequent, without, however, reaching the normal, and becomes, at the same time, weaker, until the heart only makes undulating movements, which, however, continue after the general appearances of death have set in. Paralysis of

the cardiac vagi by the poison has not been observed by Rossbach and Papitzky, nor have they noticed any change in the cardiac symptoms when the vagi have been eliminated by atropia. The peculiar bright color of the blood appears suddenly at the time when the blood-pressure begins to sink. The earlier increase and subsequent decrease in the blood-pressure our authors, as well as Boehm, refer to irritation, followed by paralysis of the vaso-motor centre. In poisoned frogs a marked enlargement of the small vessels may be observed microscopically. x.

ON THE SO-CALLED ANTAGONISM BETWEEN ATROPIA AND MORPHIA.—Binz (*Cbl. f. Med.*, 1877, p. 655; from *Deutsch. Med. Wochenschr.*, 1877, No. 12) poisoned a very young dog with 0.075 millig. morphia: sensorium paralyzed; pulse diminished from 140 to 42, extremely weak; respiration 22, very shallow; temperature 3° – 4° below normal. Then $\frac{1}{2}$ millig. sulphate of atropia was injected subcutaneously. Ten minutes later waked. Cardiac pulsation distinctly perceptible, 140; respiration 52, full; temperature still low. The animal recovered. Binz performed similar experiments, in connection with Heubach, on large dogs. The blood-pressure was doubled. In the sense that atropia can revive an animal poisoned by morphia (within certain limits), by bringing the respiration and circulation into a better condition, antagonism between these two alkaloids cannot be denied. x.

INFLUENCE OF TOBACCO ON THE GREATER FREQUENCY OF TYPHOID FEVER IN MALES.—M. Caron has presented to the Society of Practical Medicine of Paris (*La France Médicale*, 1877, No. 87, p. 691) a paper in which he advances the idea that the greater relative frequency of typhoid fever in males may depend upon the almost universal habit of smoking among men, especially as the habit is so often begun at a very early age, before the subject has attained the full powers of adult life. He says that the first experience of smokers shows conclusively the active effects of vapor of tobacco upon the brain, stomach, salivary glands, and buccal mucous membrane; and it is but reasonable to suppose that contaminated saliva swallowed must exert a deleterious influence upon the economy, for it is absorbed by the chyloferous and lymphatic vessels. To the objection that might be raised that old smokers do not experience

much increase of saliva, and hence do not expectorate, he replies that the reason is easily understood; the salivary glands are annihilated and paralyzed, which accounts for the use, by such persons, of supplementary potations of an alcoholic nature to take the place of the saliva. Thus, finally, owing to the toxic nature of the agent and the deterioration and diminished quantity of the natural salivary fluid which cannot be replaced by beverages, the organs become fatigued, the blood impoverished, the secretions perverted, and the entire organism subjected to that depression of forces which opens the scene of typhoid manifestations. The author thinks the subject should be thoroughly investigated from this point of view. If the use of tobacco by smokers is thus a predisposing cause of typhoid fever among the French, who as a nation do not chew tobacco, how much more likely to be an important factor in America, where the habit of chewing is so wide-spread, for its influence would apparently be more deleterious than inhalation of tobacco vapor. J. B. R.

TREATMENT OF DILATED STOMACH BY THE STOMACH-PUMP.—*La France Médicale*, 1877, No. 88, pp. 698, 699, gives the report of a case treated by M. Audhoui, after the method of Kussmaul. The patient, who had dilatation of the stomach (probably from cicatricial contraction at pylorus), suffered for a number of years with hæmatemesis, vomiting, gastralgia, and progressive debility. As many methods of treatment had been tried, it was determined to employ mechanical measures, and accordingly an œsophageal tube was introduced, through which the contents of the stomach were withdrawn and the organ afterwards washed out with artificial Vichy water. Pills of iron and of aloes were administered as indicated, and food was allowed after the stomach had been washed. The condition of the man soon showed marked improvement: he gained strength, had little or no pain, and remained out of bed nearly all day. He was discharged from the hospital at his own request, but continued the use of the tube, introducing it twice daily before eating. After washing out the stomach he soon experiences a sharp appetite. If he ceases the treatment, vomiting recurs. Although the case was not cured by the method, the patient's life was saved for the time, and he was enabled to return to work. J. B. R.

PHILADELPHIA

MEDICAL TIMES.

PHILADELPHIA, JANUARY 19, 1878.

EDITORIAL.

OUR POVERTY.

IN considering the question of dispensary reform, attention may well be first directed towards those forces which constitute the *vis a tergo* in supplying the material of the clinic, and which may be summed up as the expensiveness of paid medical relief.

By the profession wide-spread endorsement has been given to the fallacy that the services of a physician are worth a certain sum, irrespective of the reputation, character, etc., of the individual doctor,—an endorsement which has found its especial expression in the so-called fee-bills. That this is a fallacy is most readily shown. The indisputable fact that there are differences of skill, constitutes a solid basis for differences of charges. More than this, in every profession, and even in every trade or business, the money value of reputation is practically acknowledged. John Smith may paint as handsome a yoke of oxen as comes from the easel of Rosa Bonheur, but it will not command the same price. Recognized skill, and skill struggling for recognition, commercially are very different wares. Fortunately, in this portion of the country, at least, the real nature of the fallacy under consideration is being rapidly recognized. The clearness with which it was shown in the last debates upon the subject at the College of Physicians of this city led to the abolition of the fee-bill, and did much to break through the mists which have hung so thickly about the thinking upon this and kindred subjects. A second fallacy, not so fully exploded, is that it is beneath the dignity of a physician to accept an

honorarium below a certain amount. Very often may doctors be heard to say, "I charge a dollar a visit or nothing." True dignity never rests upon fiction: dignity so founded is brass, or, at the best, gilt jewelry. The idea involved in the assumption of dignity in the present case is that it is undignified for a man to tacitly acknowledge that his time is worth so little. If the doctor can say truly, "Mr. —, my time is worth more than that to me; I cannot afford to attend you. You can get some one who is younger or less known, though, it may be, just as skilful as myself," well and good; if otherwise, let the doctor say, "I will attend your family for fifty cents a visit," and not dress himself in the airs of extraordinary success, when the unpaid family baker, landlord, or other creditor, or the shabby, badly-cared-for children, or the care-worn face of the wife may at any time prick the bubble of his false pride and let out the dignity. True dignity is founded upon honesty; and the man whose time would otherwise be unoccupied would usually consult his true interests by charging whatever he can get.

Another puerile fallacy, not exactly in point, but so evidently resting upon a similar false basis, which has done much in Philadelphia to injure professional incomes,—many times more than the dispensaries have,—is the idea that it is extortionate and dishonest to charge over a certain rate. It is dishonest to take advantage of people, and when they have employed you, thinking that your charges are ordinary ones, to send a bill for triple the usual amount. But it is not dishonest to charge one hundred dollars or two hundred dollars, or any other price, per visit, provided persons are aware of it when they ask for services. It is no more dishonest than for Rosa Bonheur to ask more for her pictures than her brother receives for an equally good article, or than for a merchant to mark up his goods when the market price rises. It is not the intrinsic worth, but what

it will fetch in open, honest market, that justly controls the price of a commodity.

The principle being acknowledged that those of the profession who cannot get more should charge less, and that the poorer classes of society should receive not necessarily poorer services, but services of less reputation at a less price than is paid older members of the profession,—the next point to be considered is, How can the cheapest service be afforded by the doctor? In doing this, it should be remembered that the counter-practice of druggists injures physicians' incomes much more largely than do the dispensaries, and that, if the profession is to obtain all it legitimately can from the people, the absurd and in a large measure local prejudice which in Philadelphia to a less or greater extent taboos the doctor who furnishes his own medicines must be done away with.

Those of our readers who have followed Dr. J. Milner Fothergill in his admirable London letters have the advantage of the experience produced by the very free, intensely active, and close medical competition in England. Office services at a low fee with medicines furnished, working-men's clubs, provident dispensaries, etc., etc., have been practically tried abroad, and the results have been laid before our readers. Space is wanting at present in which to gather up these facts for editorial discussion, and we can only call attention to some general principles which should be borne in mind. A fixed certain income does not have to be as large as one that is fluctuating and uncertain, to enable its possessor to live comfortably and with peace of mind. The principle of trade that a wholesale business can be conducted upon a much narrower margin than a retail is also not devoid of application to medicine.

It is clear that mere writing will never accomplish more than paving the way for action. The time does seem ripe for individual or concerted movement, and those

who complain so bitterly of the dispensaries had better occupy themselves with deciding upon and carrying out some of the plans which have been so frequently discussed in the columns of this and other medical journals.

In regard to diminishing the attraction of the dispensaries, the point to be borne in mind is that as far as is possible sacrifice should be required of those who enjoy the benefits of the charity, in some measure commensurate with a small fee. Thus, the dispensaries should be reduced in number, and should be stationed far apart: the difficulty of travelling long distances, the weariness of waiting, the value of the time occupied, would undoubtedly deter many from abusing the charity. Further, every dispensary should contain a conspicuous placard stating that free medical services are given only to those who cannot afford to pay even small fees; and the wording should be such as to make persons obtaining free medical care wrongfully feel guilty of dishonesty. If to these precautions were added watchful care, and a direct honest questioning of those applying for relief, most, if not all, of the ground for the outcry which has been raised against this form of charity would, we think, soon disappear.

LEADING ARTICLES.

A NEW TREATMENT FOR ELEPHANTIASIS ARABUM—NERVE-SECTION.

DR. THOMAS G. MORTON, of this city, has lately attempted the treatment of elephantiasis Arabum in such a new and successful manner that we desire to call the attention of the profession to the subject by a brief mention of the previous history of the case, together with an outline of the doctor's plan of treatment, viz., by the operation for nerve-section.

The patient was a colored man, thirty-four years of age, a farm-laborer, and was first admitted to the Pennsylvania Hospital on December 1, 1873. He had been

a slave in Virginia, where he was born and always resided until after the war, when he came to this city. His father was crippled by a fall, but was otherwise in good health; his mother was also healthy. He and a younger brother were the only ones out of fifteen children who suffered from enlargement of the limbs. He had never been in Barbadoes.

Fourteen years before coming into the hospital he noticed the first symptoms of increasing size of the right leg. At first he had some pain, especially at night, but of late years he had been able to work as well as any one, and only felt inconvenience from the weight of the limb and from a serous oozing that issued from some abrasions and kept his foot cold and wet. His general health was excellent, the disease being mainly confined to the right inferior extremity, which was markedly ichthyotic from the middle of the thigh down to the instep. The skin and superficial cellular tissue were very much hypertrophied, and hung in large folds over the ankle-joint. Under some portions of the thick, scaly epidermis there were effusions of pus. The left leg above the ankle was slightly enlarged, but the surface seemed natural. The skin of the abdomen showed impairment of nutrition and alteration of structure, which the patient said was the result of a scald received when he was young.

Dr. Morton tied the femoral artery at the usual place on December 12. The temperature of the limb, taken on the eighth day after the operation, was 98° between the toes, and $101\frac{1}{2}^{\circ}$ on the surface of the calf (the thermometer being held in position for one hour). The axillary temperature was 99° . The limb was enveloped in a poultice of flaxseed in order to remove the old epidermis. The ligature came away on the twenty-first day, and the small wound remaining speedily closed. The limb was then enveloped in a roller bandage firmly applied. This bandage was exchanged on January 7, 1874, for one of India-rubber, which was, however, removed at the end of four hours on account of its producing numbness. The compression was, nevertheless, resumed as a regular part of the treatment, and the limb gradually and steadily decreased in size. The patient was discharged on March 21, very much benefited. [There was a marked improve-

ment after the separation of the ligament, but, as firm compression was steadily maintained with the limb in a horizontal position, it was difficult to know how much of the improvement was really due to the operation.] The patient was subsequently admitted into the Philadelphia Hospital, and, by the kindness of Dr. Brinton, Dr. Morton had another opportunity of examining him. The limb was found to be nearly as large as it was prior to the ligation; the patient, however, considered himself much improved, and thought that the operation had markedly arrested the progress of the disease. (See *American Journal of the Medical Sciences*, April, 1876, page 337, case vii., Morton on the Ligation of Large Arteries.)

The patient was readmitted to the Pennsylvania Hospital on November 9, 1877. The right leg was found to be double its size when last seen, measuring *twenty-one* inches in circumference. From the exceedingly cumbersome character of the limb, the man desired to have an amputation performed.

Having noticed the frequency with which operations for nerve-section are followed by atrophy of the parts supplied by the nerve which is cut, Dr. Morton determined to attempt the artificial production of atrophy of the right lower extremity by section of the motor nerve of that limb. Accordingly, on November 17 of last year, *the right sciatic nerve was laid bare, and one and one-half inches of its length excised at the upper third of the thigh.* No unpleasant symptoms have occurred since the operation incident to the section. There has been a steady diminution in the size of the limb ever since. On January 3 of this year it was measured and found to be but *twelve and one-half inches in circumference, a reduction in circumference of some eight and one-half inches.*

An interesting feature in the case, Dr. Morton tells us, has been the desquamation of all the thick skin which covered the limb from the knee to the ankle and foot, especially about the lower third of the leg. Patches of the skin, one-sixteenth of an inch thick, have peeled off from time to time, leaving a perfectly clean, soft, and pliable skin beneath. There has not been the least disposition on the part of the skin to ulcerate, and the lost sensibility is confined to the extreme anterior portion of the dorsum, all of the sole of the foot,

and a strip of integument running directly up the posterior part of the leg to about the middle point between the heel and the popliteal space. This strip is about two inches in width. On all portions of the leg, except this anæsthetic strip, the patient is able to distinguish between the compass-points, provided they are held at a distance not less than an inch apart. This shows that the sensibility of the larger part of the limb operated upon has been but very slightly impaired. The man has suffered from a severe attack of pleuro-pneumonia since section was performed, but this was in no wise an effect of the operation.

We are happy to say that to Dr. Morton alone are due the congratulations of the profession and public at large for the conception and performance of this novel and (judging from his first case) highly successful operation for the relief of what has always hitherto seemed to be a most troublesome and but partially curable affection at the hands of the surgeon.

CORRESPONDENCE.

LONDON LETTER.

SMALLPOX has not been very active for some time, but is now once more on the increase, and caused twenty-five deaths last week. On the hypothesis that open weather is conducive to the spread of zymotic disease, this is intelligible, as we have had but two frosty nights yet, and the thermometer keeps high for the time of year. Indeed, we have had a series of gales with driving rain recurring at intervals. The British public have been greatly impressed with the accuracy with which the time of these gales has been predicted by an American weather-prophet connected with the *New York Herald*. Ship-owners ought to be very much obliged to him, but as to the bulk of people they would thank him to tell them when some fine settled weather is coming. Perhaps this may not be so much in his line; but if he only could manage it he would be a much more general favorite than he is at present.

An interesting event occurred at the Samaritan Free Hospital on the 12th instant. Mr. Spencer Wells performed his last ovariectomy in that hospital, where he has labored for twenty years, and with whose reputation his own is so closely linked. Mr. Wells has made the Samaritan Hospital, and in return the hospital has done no little for him. After the performance of the operation, Mr. Wells reviewed his twenty years' work there. He told how in the autumn of 1857 a woman was in that hospital with what appeared to be an

ovarian tumor of the left side. It was decided to perform ovariectomy. "As soon as I opened the peritoneum, and it was proved beyond all doubt that the tumor was behind the intestines, I was induced to close the wound and do nothing more. The patient recovered without a bad symptom, but died four months afterwards in St. Bartholomew's Hospital, when it was found there was a tumor of the left ovary, which might have been removed quite easily." This led to the offer of a patient who had been relieved by tapping several times, and who was willing to face anything. Complete ovariectomy was successfully performed upon this patient in February, 1858. The pedicle was secured by whipcord ligature, and left hanging out of the wound, after the fashion of the early ovariectomists. Slowly and by degrees the operation made its way: in the first five years Mr. Wells performed it 30 times; in the second five years, 82 times; in the third five years, 132 times; and in the last five, 159 times. The mortality has steadily decreased as greater experience was acquired. Of the first 30 cases, 9 died; of the second list, out of 82, no less than 21 died,—a heavy percentage; of the third list, out of 132 cases, 36 died; and of the last 159 cases, only 33 died. The mortality of the last two years has only been a little more than ten per cent.; the percentage of the first series being nearly thirty per cent. Thus ovariectomy has made its way from an operation of exceeding gravity, ranking with the most serious amputations, to that of an ordinary amputation of the leg, or thereabouts. Mr. Wells then referred with natural and pardonable pride to the visitors' book and the names written therein. He said a glance over them would demonstrate the wide-spread interest felt in the operation, and men from the most distant parts of the globe had there seen what they carried back with them to their own countries. By such means the experience of that little cosmopolitan hospital had been carried away to the remotest sisters in suffering. Mr. Wells said he had never adopted the antiseptic plan of treatment, which was now on its trial by his junior colleagues. He said we had not yet seen enough of it in ovariectomy to warrant us in saying more than that the evident objection of operating in a chilly mist may be partially avoided; that no great harm is done by peritoneal absorption of carbolic acid; that dressings are simplified; and that hyperpyrexia is less to be feared. He thinks the introduction of thymol will do much to make antiseptic surgery more acceptable. It has a very pleasant odor, has no poisonous properties, and is a much more effective germicide than carbolic acid. One factor in the lessened mortality was, in the opinion of Mr. Wells, the rule established in 1873, viz., that every visitor should sign the following declaration: "We, the undersigned, have not been to any post-mortem examination, nor any dis-

secting-room, nor attended any case of infectious disease, within the last seven days." It must be very gratifying to Mr. Wells to look back on his twenty years' work,—how from small beginning great things grew. His name is indissolubly blended with the practice of an operation of primary importance, which at one time was regarded as scarcely permissible at all. Now Mr. Wells leaves behind him a staff of men who are regularly engaged in the prosecution of the operation, and a hospital whose reputation is world-wide, and over which his own fame will ever remain as an ægis, and of which in time he will be held to be the tutelary genius.

There is little of interest in the literary department of medicine at present. No books of any novelty or exciting much comment are announced in our publishers' columns as to appear this season, with one exception. This exception is a new medical journal to be devoted to the nervous system in health and in disease. It will embrace the psychological as well as the physiological aspects of the nervous system, and also the pathology and morbid anatomy. At the present time such a journal is urgently called for, for it embraces the topics on which public attention is at present most excited, viz., the relations of the mental processes to cerebral activity, the gradual evolution of the brain with corresponding development of intellectual powers, the correspondence betwixt increasing depth of convolutions and ascending intelligence; and, on the other hand, the relations of senile decay of the mental powers to the changes which can be detected with the microscope, of the imperfect evolution of imbeciles, of the dissolution wrought by recurring epileptic discharges, and the downward movement of disease in the nervous centres. This is obviously a very important affair, and such a journal should not be launched into the world without a very competent crew to manage it. This new journal has a brief but comprehensive title: it is denominated *Brain*. It starts with four editors, and is to be published by the well-known firm Messrs. Macmillan & Co. The first editor, *primus inter pares*, is Dr. J. C. Bucknill, a Fellow of the Royal Society, late Lord-Chancellor's Visitor in Lunacy, and co-author with Dr. Hack Tuke of the well-known hand book on psychological medicine, which has been for many years the leading manual on the subject of which it treats. Dr. Bucknill has for long been intimately associated with the advance of mental pathology in all its forms. The second editor is Dr. J. Crichton Browne, now Lord Chancellor's Visitor, and late medical superintendent of the West Riding Asylum. It was during his tenure of office in this great Yorkshire asylum that Dr. Browne gained his well-earned reputation. He made this institution into a true school of psychological medicine. He built a pathological museum, and he gathered

round him a band of workers. To keep up their ardor, he gave the most hospitable reception to London workers whenever he could attract them to Wakefield. By means of his staff, and some help from others who visited his asylum to work there, he brought out the West Riding Asylum Medical Reports, which have attained a foremost position amidst the literature of the nervous system. It was the cessation of these reports on his leaving the asylum which led up to the determination to start this new journal of the nervous system. The third editor is a man whose name is even more widely known than either of those yet mentioned. Dr. Hughlings Jackson's name is a household word with all who have worked at the diseases of the nervous system. His steady labor, his acute clinical observation, and his accurate reasoning upon the data so furnished to him, are too well known to need any eulogy from me. His recognition of epileptic attacks as discharging lesions has formed one side of the bridge, of which experimental research has furnished the other half, which will lead us over some of the gravest difficulties in coming to a fair understanding of the working of the brain, alike in health and in disease. The fourth and last of this able quartet is Dr. David Ferrier, whose researches into the nervous system have recently become so widely known. A favorite pupil of Prof. Bain's, of Aberdeen, learned in all the metaphysics and psychology requisite for the proper study of the material organ the brain, having sat at the feet of the late Prof. Laycock, of Edinburgh, whose real worth as a teacher has never yet been properly appreciated, Dr. Ferrier gained a gold medal for his graduation-thesis on the histology of the brain. Since then he has worked at the nervous system with much assiduity, and his continuation of the researches of Fritz and Hitzig gave them quite another value to what they possessed ere he took them up.

Such, then, are the qualifications and the antecedents of the editors of this new journal; and if capacity and fitness on the part of its editorial staff can secure the success of a journal, we may safely predict for *Brain* a position and a success to which but few journals can ever hope to attain.

One of the most interesting discussions which have taken place at any of the metropolitan societies this season was that on *Chyluria* at the Pathological Society. It commenced by an account of such form of malady in a gentleman born in Barbadoes, who had suffered from what is termed in the West Indies "hemorrhage from the kidneys." After that he had intermittent attacks of chylous urine. The appearance of chyle in the urine was followed by backache, languor, and pain in the testicles. When the urine is allowed to stand, a delicate coagulum forms on the surface, while the layer at the bottom consists

of a bloody fluid. On examination, swollen blood-corpuscles could be seen under the microscope. Dr. Dickenson, whose works on Diseases of the Kidney are so well known, then related particulars of a case which had been for some time under his care, and exhibited specimens of the urine. This patient had never been out of England, so there was no suspicion of the possibility of her possessing any filariæ, which are the cause of the malady in India. When she first came under his care at St. George's Hospital, her urine was like a specimen of rich milk, as if from an Alderney cow. The amount of blood in it was considerable. It also contained much albumen. At one time it formed a coagulum so firm that it resembled a jelly-fish, and was preserved in spirit. It was due to the regurgitation of chyle into some part of the urinary apparatus below the uriniferous tubules of the kidney. That was proved by the fact that no tube-casts were ever found in cases of chyluria. Yet with a fluid so rich in albumen and blood-corpuscles, casts must be formed, either blood-casts or fibrine-casts, if this fluid passed down the tubuli uriniferi. Chylous urine is not a renal secretion so far as the chyle is concerned. This patient, then twenty-one years of age, only weighed a little over seventy pounds when admitted into the hospital; now she weighs over one hundred and thirty pounds. The proportion of chyle at one time was twenty grammes; now it is but one and three-fourths grammes. It had been pointed out by Dr. Vandyke Carter that chyluria was due to a mechanical admixture of chyle with the urine; and it was evident it was due to a regurgitation of chyle into the urine at some point below the tubules of the kidney. Dr. Ord gave an account of the same patient taken about a year before she came under Dr. Dickenson's notice, and of an examination made of her urine by Dr. Thudichum, who found that the constituents of chyle existed in it in the same proportion as in normal chyle. It was evident that there was some direct communication betwixt the chyloferous vessels and the urinary passages. Another case, in an Algerine Jewess, was then related by Dr. Morison and Dr. Leared. In this case also the urine was clearest in the morning and most chylous towards evening and after meals. Dr. Murchison inquired as to the connection which existed betwixt external discharges of chyle and chylous urine, and in reply Dr. Dickenson said that they frequently alternated. When the thoracic duct was blocked, the lacteals and lymphatics behind might become stretched until their valves became insufficient, and then regurgitation ensued. Chylous exudations were produced in the same way. The most interesting point in the whole discussion was that of the treatment of this condition. On the assumption that chyluria was a mere regurgitation of chyle, the late Dr. Bence Jones once at-

tempted to use pressure by the application of a bandage round the kidneys, but without good results. Pursuing this idea, Dr. Dickenson had fastened a tourniquet over the lowest lumbar vertebra, and the immediate effect was striking. The urine was scarcely at all chylous after, and was of a urinous odor. It never recovered its full chylosity, and ever since had been but a bad specimen of chylous urine. Chyluria has nothing to do with kidney diseases, and is in no way to be regarded as a renal affection.

Prof. Lister made his *début* into London medical societies the other evening at the Pathological Society. There was a large gathering of members, probably more to see him than from interest in his subject-matter,—"Lactic Fermentation in Relation to Pathology." The lecture was very different from the ordinary staple matter of the Society's transactions. An elaborate account of his method of performing his experiments on milk was illustrated by specimens of milk preserved completely since August last, and others illustrating different forms of milk-fermentation. He showed that the sour fermentation of milk was due to the presence of the motionless bacterium lactis,—a comparatively rare form of bacterium, rarely found elsewhere than in dairies. Other bacteria set up fermentation, but of quite a different character to that set up by the milk bacterium. Prof. Lister spoke for an hour and a half, without notes, never once hesitating amidst his very difficult subject, with its minute details, and impressed his audience very favorably indeed. Profs. Burdon Sanderson and Charlton Bastian spoke after Mr. Lister,—the one proposing a vote of thanks, the other seconding it. Some account of Prof. Lister's experiments might be interesting to your readers, but it would simply be impossible by words to convey any adequate idea of the nature of the experiments and their wonderful minuteness in detail, and of the care which enabled the glass plates, with their glass covers, containing small wineglassfuls of milk, preserved since last August, to be brought from Edinburgh to London without breakage or spilling. Altogether, Prof. Lister's introduction to the London societies may be regarded as an accomplished success. For years Mr. Lister has been a Fellow of the Royal Society of London as well as of that of Edinburgh.

In this season of *bronchitis*, it may be practically useful for your readers to know the great utility of strychnine as a true expectorant by its action upon the respiratory centre. Like ammonia, it does not act upon the mucous lining of the air-tubes, but upon the nervous centres of the respiration. The experiments of Prokop, Rokitsansky, and others, with this agent, show that it has a decided action in stimulating the respiration by acting upon the respiratory centre in the medulla oblongata. Ammonia acts in the same man-

ner. Ammonia is commonly added to cough mixtures for its stimulant expectorant effect. It enables the patient to respire more perfectly and so to expectorate the phlegm more effectually. This is of the utmost importance in bronchitis when the stage of free secretion is reached and the air-tubes are full of mucus and the patient is in danger of choking. Here the battle lies betwixt the powers of the patient and impending exhaustion. The ordinary mixture of carbonate of ammonium, spirits of chloroform, and senega is very useful; and some tincture of squill will be found a useful addition. But increasing clinical experience of strychnine leads the writer to the conclusion that of all agents which exercise a stimulant effect upon the nervous mechanism of the respiration, strychnia is one of the most potent and useful. Strychnia acts powerfully upon the expiratory part of the respiratory act, and kills, by producing spasm of the muscles connected with expiration. It is very useful, then, when expiratory efforts are required for the expulsion of mucus gathered in the air-tubes. In chronic bronchitis, with emphysema, it is of great service, and in the dyspnœa connected with advanced Bright's disease it is very efficacious. It produces good effects when given alone, and is a useful addition to ordinary cough mixtures. A combination of carbonate of ammonium, tincture of nux vomica, and tincture of squill, is a most excellent mixture for patients suffering from dyspnœa, and generally procures them "more breath," as they phrase it. One of the most important matters connected with such use of strychnia is its relation to sleep. In many of these cases sleeplessness is a prominent factor; and sleep can be procured only by a narcotic. But while the narcotic acts upon the nervous system generally, it also acts upon the respiration, probably at its centre in the medulla, and the patients are apt to wake up with an attack of dyspnœa. A series of cases has demonstrated that by the use of strychnia the respiration is so improved that the patient can go to sleep without the narcotic, and, more than that, sleep fairly well, and be quite free from attacks of breathlessness, which awaken the patient and cause him to add voluntary respiratory efforts to the automatic act of respiration. By resort to strychnine these patients can be much relieved. In a case seen recently of complex lung and heart mischief, to which was added chronic chloral poisoning, the good effects of strychnia were very marked. The patient was almost at once relieved from the attacks of dyspnœa in the middle of the night, to which he had long been subject. By the use of strychnia during the day, a narcotic pill at bedtime is often deprived of its tendency to produce nocturnal dyspnœa; and strychnia may be usefully prescribed in cases of shortness of breath, where there has been also long indulgence in hypnotics. There is no

such thing in this world as unalloyed good, and strychnia, so used, sometimes acts so powerfully upon the bladder-centres, and produces such irritation there, as to necessitate its discontinuance. But this is not the rule by any means.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, NOVEMBER 8, 1877.

The PRESIDENT, DR. H. LENOX HODGE, in the chair.

Delivery of large fibroid tumor from uterine cavity. By Dr. MICHAEL O'HARA.

SAW Mrs. De C., æt. 32, first on October 28, 1877, suffering from uterine hemorrhage. She was quite blanched, and in an exhausted condition from repeated hemorrhages for seven years, as well as from the privation of the necessities of life. The uterus appeared to be about the size of a five-months pregnancy, larger and thicker at the left superior portion than at the right side. She declined examination, and was ordered ergot and *ol. erigerontis Canadensis*, with iron, quinine, and liberal nourishment.

She has no family history of fibroid growths. She menstruated first at thirteen years of age. Menstruation has always been copious and regular. Between her menstrual periods for the last seven years she has had on an average four additional losses of blood. She married seven years ago, but has never conceived; and her hemorrhages commenced immediately after her marriage.

On 30th, upon examination found os open about the size of a quarter of a dollar, some bleeding, and tumor presenting; no pains. Ergot was given freely. At 11 P.M. found her in active labor, os out of reach, and not to be found, by reason of a large mass blocking up completely the vagina. Dr. Garretson was called in consultation. By dint of use of fingers inserted into texture of tumor, the application of obstetrical forceps, and the use of the hook attached to the obstetrical forceps, the mass was brought away. Whiskey was freely used, but the patient was not anesthetized, on account of using the bearing-down efforts of the patient, which, with manual compression of the uterus aiding her pains, accomplished much. In a short time, and in the same way, the second mass was delivered. After this, by use of the fingers, etc., and with force, all that could be extracted of that part attached to the uterus itself was torn away. Some pieces were left attached to the uterus on account of the exhausted condition of the patient, to be allowed to slough away if not expelled by the uterus itself.

The mass, though appearing to be composed of three pieces, was really all one tumor, weighing in all about twenty-nine ounces. The first part extruded was really a portion only, and you could see the place of attachment to the second mass, while the pedicle, or rather base, to which the second portion was attached, was quite large, and more fibrous in structure than the tumor, which appears to be undergoing fatty transformation.

The tumor is now much shrunken. One of the masses is oval in shape, four inches long, three and a half inches wide, two inches thick. This was first removed, tearing it from its pedicle of attachment to its fellow, which was one line thick, two inches wide. This mass is very firm, white, and somewhat lobulated.

The second mass was much softer, of the size and shape of a large orange, and was apparently attached to the whole upper portion of the uterus by a broad expanded base of dense fibrous tissue. Three portions of this base, two or more inches in diameter, were each separately removed by force. There was little hemorrhage during the operation or afterwards. There was much exhaustion from pains and the severe contractions of the womb. On ergot, iron, and quinine, nourishment and stimulus, though excessively reduced, the patient is doing well.

Report of the Committee on Morbid Growths.

—The tumors removed from the uterus, presented by Dr. O'Hara, are seen to have, upon microscopic examination, the structural elements of fibromata, consisting of bundles of fibrillar connective tissue, arranged without any regularity as to direction, so that a thin section exhibits transverse, longitudinal, and diagonal cuts of the fibres. The cells are not numerous, spindle-shaped and stellate in form, some containing an oval nucleus. The blood-vessels are few in number, and have their walls greatly thickened by connective tissue.

"September 22, 1877."

Spina bifida. Presented by Dr. WILLIAM H. PARISH.

M. R., a female child, came under my observation, when two weeks of age, at the clinic of diseases of women and children at the Jefferson College Hospital. She was of small size, very feeble, and extremely restless.

A spina bifida existed over the lower lumbar and the sacral region. The tumor existed at birth, and, when first seen by myself, was about the size of a small orange, tense, slightly fluctuating, with a glistening, reddened, somewhat umbilicated surface.

The lower extremities were disproportionately small, with evidence of imperfect vascular circulation. They were quite motionless, and there was marked double talipes equinovarus. There were frequent small fecal evacuations, and frequent or continuous urination.

The extreme debility of the child, the apparent absence of control of the bladder and rectum, and the complication of aggravated club-foot, seemed to contra-indicate any operative interference with the tumor.

The only local treatment was that of gently supporting the mass, by means of a pad of cotton and a bandage.

Later, superficial excoriation occurred, and a few days before death there was a spontaneous escape of cerebro-spinal fluid, followed in a short time by an escape of pus. The mass diminished in size, and the child became feverish and more restless. Death, preceded for a few hours by convulsions, occurred seven weeks after birth.

We are indebted to Dr. P. E. Loder for the removal of the specimen.

This, as presented, consists of the lower four lumbar vertebræ and the upper two sacral vertebræ. Only the two lower lumbar and the sacral vertebræ are defective. From the appearance of the two upper sacral vertebræ it seems probable that the rest of the sacral canal was also incomplete. The deficiency is due to the non-approximation of imperfectly-developed laminae, and the absence of the spinous processes. The tumor is continuous, by means of a constricted portion, with the contents of the spinal canal. It consists of the arachnoid and dura mater, with the overlying integument. The cord itself is continuous into the tumor, and terminates by union with the integumentary covering. A circular area, of a color deeper than that of the surrounding skin, marks the spot of union between the cord and the integument. The sac contained a small amount of pus. Through the upper anterior sacral foramina can be seen passing the first anterior sacral nerves.

(To be continued.)

REVIEWS AND BOOK NOTICES.

DISEASES OF THE NERVOUS SYSTEM. By JULIUS ALTHAUS, M.D. Putnam & Sons, New York, 1878.

This book is one which is somewhat difficult to characterize. It is very incomplete, and based upon a grossly absurd classification, but so far as it reaches it is very pleasant reading, fairly abreast with the foremost science of the day, careful in its statements, fresh in both manner and matter, evidently the work of one who has read deeply, observed widely, and thought independently. Without entering upon a detailed discussion of the classification,—for said classification is not worthy of detailed discussion,—it may be premised that the system is not pathological, physiological, clinical, or therapeutical in its basis; but simply registrarial, being the one adopted by the Registrar-General of England. In it diseases of the nervous system

are arranged as convulsions, apoplexy, paralysis, cephalitis, epilepsy, hysteria, and catalepsy, insanity, delirium tremens, tetanus, chorea, and "other structural diseases of the nervous system;" myelitis, acute and chronic, ending in softening, is a form of cephalitis; chronic myelitis, ending in hardening, *i.e.*, sclerotic myelitis, and also syphilitic myelitis, are varieties of "other structural diseases of the nervous system;" all convulsions are either infantile eclampsia, puerperal eclampsia, or eclampsia from poisoning; drunkenness and sunstroke are an apoplexy; aphasia is a paralysis, etc., etc. On the whole, the classification may be designated as "delirious."

The most striking and interesting feature of the book is the discussion, which runs through it, of the asserted increase of nervous diseases in modern times. The sentences of Dr. Althaus are a most welcome and much-needed relief from the dreary generalities—from the building of towers of Babel out of the rotten straw of imperfect, incomplete, and insufficient statistics—which have been so frequently the handiwork of orators and essayists upon this subject. By a careful and many-sided examination of the enormous statistics accumulated by the Registrar-General, he seems to demonstrate that nervous diseases are not more frequent, at least in proportion to other diseases, than formerly. In these discussions it must be borne in mind that all chronic diseases are seen more frequently by physicians than in the days of our fathers, because life is more prolonged and thereby affords more opportunity of acquiring non-fatal chronic disease, and also, when the disease is acquired, of consulting divers doctors in hope of a cure.

In conclusion, we would say that the practitioner using this book, after having acquired a fair knowledge of nervous diseases, will be pleased and instructed by it, whilst to the student it will bring confusion rather than clearness, and will act as a barrier rather than as an aid to the acquisition of knowledge.

THE ACTION OF MEDICINES. By DR. ISAAC OTT. Lindsay & Blakiston, Philadelphia.

To the inhabitants of the earth, nothing seems so opposed to daily experience as the fact demonstrated by science that the earth is whirling through space with a prodigious fury of motion. To the sailor on the ocean, swept along by the Gulf Stream, or perhaps carried by some unknown current to destruction, nothing is so intangible and remains so unsuspected as the steady floating onward. Thus also is it with the great tides of scientific thought: by virtue of their very grandeur they are often unnoted. The universal movement is, perhaps, absolutely unfelt because it is universal, and rarely is it fully appreciated until the historian, looking backward, sees how it has carried onward human progress.

In the history of medicine we conceive that the present decade will be marked as that of the rise of physiological therapeutics, the period when the dignity, the greatness, the truth of the modern therapeutic idea first moved upon the face of the waters, and said, "Let there be light," and the light streamed in and grew,—grew on until the tides moved forward under its influence.

The volume before us is one of the evidences of the drift of professional thought. Four or five years ago, scarcely a book in any language boldly and decisively took ground for the new faith, which was mentioned only to be derided in our most esteemed works on therapeutics. Now almost monthly some new volume appears as an exponent of the system, and is bought up with astonishing rapidity by the practitioners, the rank and file of the profession; whilst in laboratories and in hospitals hundreds of men are adopting, sifting, proving, pushing forward into new regions of discovery.

Dr. Ott's work is chiefly valuable as a guide to those who desire to join in the work of discovery. It is divided into four chapters. The first three of these are upon the methods of studying the physiological action of remedies,—the first the general physiological action, the second the action on the nervous system, the third that on the circulation. The last chapter of the book is upon the action of medicines. We wish this had been omitted. As it is beyond the general scope of the work, it is necessarily too brief to be of much value, and is almost all of it to be found in the later works on therapeutics. The first three chapters are very good, and show that their author is thoroughly conversant with the methods he speaks of: in a word, they are worthy of Dr. Ott's growing reputation as a physiological investigator. We can recommend this book most decidedly as a *sine qua non* to students and practitioners with some leisure,—to any and all desiring to labor in this most promising field of research. Good as the book is, we sincerely hope that in a future edition its author will render it more valuable by omitting accounts of individual doings and filling out the schema of methods by discussing the modes of studying elimination, action on the blood, on the glandular system, on temperature, on cell-growth, etc., etc. Then the work will be complete and exhaustive of its kind,—an absolute guide up to the borders of the unknown in all the methods of investigation in scientific therapeutics.

THE SPAS OF AIX-LES-BAINS AND MARLIOZ. By FRANCIS BENTON, M.D. London, J. A. Churchill, 1877.

This duodecimo of one hundred and fifty-nine pages is from the pen of the resident physician of Aix-les-Bains, and, of course, represents everything *couleur de rose*. It would seem, however, that there can be no question

as to the value of the treatment at Aix of gouty and allied diseases. As a means of information in regard to the value of these springs, the mode of life at them, the expenses, the pleasure-trips, etc., the book seems to have the value of a well-planned, well-written, and fairly reliable advertisement.

GLEANINGS FROM EXCHANGES.

SPINA BIFIDA (?) CURE.—Dr. Norman Teal reports (*Detroit Medical Journal*, December, 1877) the case of a strong healthy child who at birth had a fleshy fluctuating tumor situated at the juncture of the lumbar and sacral divisions, of about the size and shape of a medium hen's egg, with the longest diameter running parallel to the body. Pressure upon it caused the fluid within to recede, evidently into the spinal canal. It was connected with the body by a pedicle some three-fourths of an inch in diameter and rather less than a quarter of an inch in height.

Three months subsequently, the tumor having greatly enlarged, and its contents become more fluid, treatment was commenced. The fluid in it was squeezed forcibly into the spine, a cord was drawn loosely around the pedicle, and iodine applied externally. A few days subsequently, several drachms of fluid were drawn off by the hypodermic syringe, half a drachm of a diluted tincture of iodine injected, and external pressure applied by means of adhesive straps. Under this treatment the tumor became a hard solid lump, which has remained *in statu quo*, the child being now four years old.

OVARIOTOMY DURING PERITONITIS.—Dr. Lawson Tait reports (*Medical Examiner*, November 29) four cases of ovariectomy performed during the existence of peritonitis. In the first case the abdomen was found to contain much ascitic fluid, with flakes of lymph. The surface of the tumor was covered with patches of inflammation and purulent lymph, and finally a quantity of purulent lymph was removed with much care from both pelvic and peritoneal cavity. After the operation the fever abated, and on the ninth day the stitches were removed. In three weeks walking exercise was commenced, and now recovery is complete. In the second case death occurred the sixth day after the operation, from a recurrence of the inflammation. In the third case a large quantity of flaky purulent fluid was found in the abdominal cavity, and the tumor was bound down all round by soft recent inflammatory adhesions. The second day after the operation the temperature had fallen from 38.6° to 37.2°, but subsequently it rose again. By a liberal use of opium the threatening relapse was averted, and the later progress of the patient was steadily towards health. The fourth case was

complicated with violent hemorrhage during the operation, from old adhesion, requiring the free use of the cautery. Death from exhaustion and shock was for some hours momentarily expected. Nevertheless, under the administration of opium (in drachm doses every two hours for some time) convalescence was established.

ANTISEPTIC TREATMENT OF WOUNDS.—In a long and elaborate paper, Dr. Robert F. Weir enthusiastically commends and corroborates the method of Lister, reporting twenty-four surgical cases of various character treated by him in this way. He appends the following mortality table which he has compiled:

		From Ordinary Treatment.	From Open Treatment.	From Modified Antiseptic Treatment.	From Strict Antiseptic Treatment.
Amputations	{ Thigh Leg Arm Forearm }	per ct. 21.4* 28.00†	26.4‡	2.27¶ 9.80**	3.09‡‡ 10.91||
Compound Fractures	{ Thigh Leg Arm Forearm }	per ct. 38.00‡	25.4||	2.50††	0.00¶¶

SKIM MILK IN DIABETES.—Dr. H. W. Jones reports (*Chicago Medical Journal and Examiner*, January, p. 31) a case of saccharine diabetes cured by observing the following directions: (1) To take *no other food* than skim-milk; for the first day or two (2) to drink but *four or five pints* in all, distributing this amount at intervals of two hours; after the third day (3) add a pint or two of the same preparation *curded with rennet*, but not to exceed seven pints, including curd.

HERPES ZOSTER PRODUCED BY PRESSURE ON THE NERVES.—Mr. L. H. Jones reports (*British Medical Journal*, December 1) two cases of herpes zoster in which he believes the eruption was caused by pressure on intercostal nerves.

In the first case a prominence was found on the rib (sixth), evidently indicating a node. The patient was put on iodide of potassium, with perchloride of mercury and bark. When he next presented himself, there were copious and distinct crops of vesicles, showing clearly the course of the affected intercostal nerve. The eruption continued for some time; but, by persevering with the medicine, the prominence on the rib melted away, and with that the herpes also.

The second case was a laboring-man who was suffering great pain in the bend of the

* "St. Bartholomew's Hospital Report," *loc. cit.*

† Spence's "Surgery." ‡ Krönlein. § Callender.

|| Callender, Spence, and Holmes. ¶ Volkmann.

** Volkmann and Lister. †† Lucae, quoted by Volkmann.

‡‡ Krönlein. ||| Callender. ¶¶ Volkmann.

knee. Hot fomentations were ordered, and an opiate at night. Two days afterwards there appeared copious and distinct crops of vesicles along the outer half of the calf of the leg, two large crops on the outer side of the tendo Achillis, and two small bunches,—one on the little toe, the other on the outside of the next toe,—indicating the course of the external saphenous nerve. The bend of the knee appeared hard and brawny, without any pulsation. Judging it to be an abscess, a deep incision was made, and a large amount of pus evacuated. The herpes immediately disappeared.

RADICAL CURE OF HYDROCELE.—Mr. Geo. Brown (*London Lancet*, December 1, 1877) claims the following advantages for the seton over incision in the radical cure of hydrocele: 1. The operation is much simpler and less painful. 2. It is unattended by loss of blood or shock to the system. 3. There is less risk of suppuration or sloughing. 4. After-treatment is more simple. 5. The cure is effected more speedily. 6. No cicatrix remains. 7. An anæsthetic is unnecessary in the case of adults.

MISCELLANY.

CHANGES IN THE PANCREAS IN DIABETES.—In a communication to the Academy of Medicine, Paris, says *La Presse Médicale*, Dr. Lancereaux has made some important observations, which, if confirmed, may throw some light upon the pathology of this obscure disease. "Diabetes mellitus," he remarks, "is in some cases accompanied by grave alterations in the pancreas. Under these circumstances the progress of the disease is rapid, attended by the usual symptoms of the disease in their most aggravated form, and followed by a fatal result. Animals which have had their pancreas extirpated have a voracious appetite, rapidly emaciate, and quickly die. Taking these facts into consideration, there is," in the opinion of Dr. Lancereaux, "evidently a causal relation between alterations in the pancreas and the production of the disease."

COST OF THE GERMAN UNIVERSITIES.—The twenty universities of Northern Germany cost the country annually about two millions of dollars. The University of Leipsic alone receives \$250,000. These twenty universities have a staff of 1250 professors, who receive salaries varying from \$500 to \$3000. The young man who embraces the career of teaching can calculate on having a salary of \$2000 when he reaches the age of thirty-five. He is certain also of a pension when retired. Germany has a university for every two millions of inhabitants, Austria one for five millions, England one for seven millions, and Switzerland one for one million.

TO REMOVE MOLES.—"A member" gives the following method in the *British Medical*

Journal. He removes the mole by two curved incisions, passing on each side. The edges of the wound are then brought together by means of a wire serre-fine, and the wound and teeth of the serre-fine covered with lint soaked in collodion. On the third day he removes the serre-fine, and seals up the openings thus left in his dressing with more collodion. On the fifth or sixth day he removes the lint and finds the wound healed. "Usually there is no mark left, and in most cases only the faintest possible line of a cicatrix."

HYDROPHOBIA DURING PREGNANCY.—The following case has been communicated to the Academy of Medicine of Paris by Professor Borley, for M. Congier, of Bagnières. A woman, aged 42 years, when about eight months pregnant, was bitten on the hand by a cat. She was confined in due course. About six weeks after, and ninety days after the bite, the lochial discharge became altered. Shortly, marked symptoms of hydrophobia set in, and the woman died in five days. The child was healthy.—*The Doctor*.

DEATHS from wild animals are said to be increasing in India. According to the official report of the Government, no less than 19,273 persons died within the year, in India, from the attacks of such animals, while 54,830 cattle were killed by the same means. The official reports also state that the recent great cyclone on the Bengal coast cost 165,000 lives per million of those who inhabited the district over which it extended.

BILLROTH AND VOLKMANN.—The completion of Billroth's tenth year of professorship in Vienna was recently celebrated by a festival, at which at least fifteen hundred students were present. Professor Volkmann, of Halle, was also honored last month with a numerously attended festival, in celebration of his refusal to quit the scene of his labors for the chair of surgery offered to him in the University of Würzburg.

MR. GEORGE DARWIN, after searching investigation, concludes that "the widely different habits of life of men and women in civilized nations, especially among the upper classes, tend to counterbalance any evil from marriage between healthy closely-related persons." Mr. Darwin's views are in a measure sustained by Dr. Vorní's inquiry into the commune of Batz. Batz is a rocky, secluded, ocean-washed peninsula of the Loire Inférieure, France, containing over three thousand people of simple habits who don't drink and commit no crime. For generations they have intermarried, but no cases have occurred of deaf-mutism, albinism, blindness, or malformation, and the number of children born is above the average.

The incompressibility of sand is mentioned in the *Journal of Industry* as a cheap and ready means of making supporting columns and bases for anvils, or for blocks designed to support heavy weights. Sand, enclosed in

thin wooden or iron walls, if thoroughly shaken down, may be made to sustain a much greater weight than the walls or cylinders alone, by placing all the weight directly on the sand and quite free from the walls that retain it. Wooden boxes filled with sand thus make excellent supports for anvils or tables for laboratory work. So long as the pressure is vertical, the sand will sustain far greater weights and resist heavier blows than could be borne by solid blocks of wood of the same size.

It gives us pleasure to call attention to the improvements being made by Dr. Given at *Burn Brae*. They are evidences of deserved prosperity. The doctor has recently completed an annex to the female department, and in the spring will complete one to the male department, thus greatly enlarging and increasing the facilities for the accommodation of patients.

INFLATION OF THE URETHRA, either by injecting a solution of carbonate of sodium, followed by one of tartaric acid, or else by means of a Politzer's bag, has been successfully used as an aid to catheterism in urethral stricture.

THE best local anæsthetic for dental operations is said to be the extract of eucalyptus. Apply one drop on cotton to the sensitive dentine just before excavating.—*Boston Medical and Surgical Journal*.

COHNHEIM and Birch-Hirschfeld are both mentioned in connection with the chair of pathological anatomy in Leipsic, and it is rumored that the faculty mean to offer it to Von Recklinghausen, who probably will decline it. Volkmann, of Halle, has declined a call to Würzburg.

TO CLEAN PAINT.—Take one ounce pulverized borax, one pound small pieces best brown soap, and three quarts water; let simmer till the soap is dissolved, stirring frequently. Do not let it boil. Use with a piece of old flannel, and rinse off as soon as the paint is clean. This mixture is also good for washing clothes.

DR. BIGELOW reports in *The Practitioner* a case of tetanus caused by a rusty nail in the foot, which was relieved in less than thirty minutes by introducing a drachm of chloral hydrate into the wound after it had been enlarged by incision.

THE Edinburgh University has this winter 2252 students, divided as follows: faculty of medicine, 922; of arts, 919; of law, 347; of divinity, 64.

THE Germans propose to lengthen their already comparatively long period of study for a medical diploma. *Deutsche Med. Wochenschrift*, Nos. 46 and 47, 1877.

SULPHATE OF CINCHONIDIA has been tested as an antiperiodic and tonic in the Hartford City Hospital with very satisfactory results.

THE death of Dr. Austin L. Sands, of Newport, Rhode Island, is announced.

NOTES AND QUERIES.

NASAL DIPHTHERIA.

SAN BUENA VENTURA, December 23, 1877.

H. C. WOOD, JR., M.D.:

DEAR DOCTOR,—During the recent epidemic of diphtheria in this place, my partner, Dr. C. L. Bard, and myself, had four cases of nasal diphtheria, only one of which I wish to report in full. Of the other three, two of them died of paralysis of the heart, one in fifteen days and the other in twenty-six days after the attack. The other died of inanition twenty-five days after the attack. The fourth case was that of a boy of fifteen years of age, and not at all robust. His attack was very severe, at least as bad as any case I have ever seen. He was compelled to keep his mouth open in order to breathe, as the membrane almost occluded his nasal passages. He was treated in the same manner as the others,—namely, his throat was cauterized with nitrate of silver at the beginning of the attack, and afterwards with Monsel's Solution and glycerin in equal proportions. He used a gargle, composed of tincture of myrrh, carbolic acid, acetic acid, and honey, several times a day, and a tonic composed of tincture of the chloride of iron and sulphate of quinia.

His disease left him at the end of the twenty-eighth day completely prostrated, with semi-paralysis of the muscles of deglutition and phonation, and partial amaurosis. His legs and arms were almost completely paralyzed. His former treatment was stopped, and he was put upon the use of iron and strychnine, and a Gaiffe's interrupted battery was used for twenty minutes to half an hour daily, and this treatment has been kept up until the present time. The results have been most satisfactory. His paralyses have all entirely disappeared, with the exception of the paralysis of his lower extremities, and that has so far improved that he is able to walk with very little difficulty. He has grown very much, and looks better and weighs more than before his attack.

I think it is a question of a very short time before he will be as well or better than he was last August when he was first attacked.

I cannot too strongly insist upon the use of nitrate of silver (pure) in preference to a weaker caustic in the first stages of this disease. As cases of nasal diphtheria seldom, if ever, recover, I thought that this case might be of interest to the profession.

Yours very truly,

J. CRAIG MILLER, M.D.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM DECEMBER 30, 1877, TO JANUARY 12, 1878.

MURRAY, R., COLONEL AND SURGEON.—Announced as Medical Director of the Division. G. O. 1, Division of the Missouri, January 2, 1878.

ALEXANDER, R. H., MAJOR AND SURGEON.—Granted leave of absence for four months from January 1, 1878. S. O. 1, A. G. O., January 2, 1878.

STORROW, S. A., MAJOR AND SURGEON.—Assigned to duty at Fort Laramie, Wy. T. S. O. 1, Department of the Platte, January 2, 1878.

WATERS, W. E., CAPTAIN AND ASSISTANT-SURGEON.—To return to San Antonio, Texas, and report in person to the Commanding-General, Department of Texas, for assignment. S. O. 4, A. G. O., January 4, 1878.

CARVALLO, C., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for ten days' extension. S. O. 1, Department of the Missouri, January 2, 1878.

ELBREE, F. W., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Oglethorpe Barracks, Savannah, Ga. S. O. 203, Department of the South, December 27, 1877.

PAULDING, H. O., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for three months' extension. S. O. 1, Department of Dakota, January 2, 1878.

FINLEY, J. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Leave of absence extended two months. S. O. 5, A. G. O., January 5, 1878.

NEWLANDS, W. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Angel Island, Cal. S. O. 1, Division of the Pacific and Department of California, January 2, 1878.

BUCHANAN, W. F., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence until April 1, 1878; and his resignation accepted by the President, to take effect April 1, 1878. S. O. 2, A. G. O., January 3, 1878.

PHILADELPHIA, FEBRUARY 2, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE
ON THE RATIONAL TREATMENT
OF TYPHOID FEVER.

Delivered at the University Hospital

BY WILLIAM PEPPER, A.M., M.D.,

Professor of Clinical Medicine in the University
of Pennsylvania.

(Reported for the Medical Times.)

T. A., a sailor, aged 25, a native of Canada, was always hale and hearty until last summer, when he had an acute attack of dysentery, which lasted ten days. He fully recovered from this, however. On November 23, while cruising about Boston, he was taken ill a second time, and went to his bunk on the 24th, complaining of dizziness, general weakness, and aching in his bones. He was admitted to the hospital on November 27. His cheeks were flushed, his temperature $103\frac{1}{2}^{\circ}$, and his pulse 130. There were slight bronchial râles over his chest, and some cough. His tongue was yellowish-white; his bowels quiet, but easily moved. His belly was tympanitic. At first no spots showed themselves. There has been no epistaxis from the beginning of the attack. There was creeping fever in the morning, and always a considerable rise of temperature towards night. I began the treatment by the administration of full doses of quinia, thirty grains daily, at the rate of from five to ten grains every two hours, up to the production of marked cinchonism. This treatment, to my great surprise, had no influence whatever upon the fever, his temperature running up to 102° , 103° , and $103\frac{3}{4}^{\circ}$ on November 30. At once it became evident to me that this was a case of typhoid fever, and my treatment was accordingly modified.

On December 10, the eighteenth day of the attack, the temperature was as high as $104\frac{3}{4}^{\circ}$ in the evening, and the characteristic rose spots were out all over the abdomen. From the beginning of the fourth week, however, the improvement was rapid, and the temperature made a steady "dead drop," until on December 15 the thermometer in the mouth marked $99\frac{1}{2}^{\circ}$. On December 17 the pulse was 72, and the

temperature $98\frac{1}{2}^{\circ}$. The mind was clear, and but very slight nervous symptoms were present. On December 20, however, there was a sudden rise of temperature to 102° in the evening, running down to 101° the next morning, and then up again to 103° the following evening. This was evidently a relapse, the temperature-chart bearing a very close resemblance to that of the second week of the original attack. Later in the course of this relapse there was a sudden fall of temperature to $97\frac{4}{5}^{\circ}$ one morning, accompanied by a copious hemorrhage from the bowels. On that evening the temperature was $102\frac{1}{2}^{\circ}$. Since that time the patient has been slowly but steadily improving, until to-day his temperature is normal.

Before proceeding to discuss the treatment, let me call your attention very briefly to the symptoms of typhoid fever. First, as regards the temperature. This usually begins at $99\frac{1}{2}^{\circ}$ in the first week. As the disease progresses the temperature mounts up and drops down, falling each morning, but not quite so far as on the preceding morning, and rising each evening higher than on the preceding evening. The temperature on the seventh day generally stands at 101° in the morning and $102\frac{1}{2}^{\circ}$ in the evening. In typhus fever the rise of temperature is not gradual, but very rapid, running right up to 102° , 103° , 104° , even higher. In the second and third weeks of typhoid fever the temperature is fairly uniform, though high, with a daily variation of from $1\frac{1}{2}^{\circ}$ to 2° . At the end of the third week the temperature begins to fall, showing a correspondingly lower temperature each morning and evening. These data are of great value in discovering whether the fever is running its proper course. In malarial fever there is a complete remission, or intermission, according to the type of the fever. This is never the case in typhoid fever.

The other most characteristic symptoms of typhoid are those connected with the abdomen. The belly is usually very much swollen and tympanitic. There is either constant diarrhœa or an irritable state of the bowels, with cutting abdominal pains. As regards nervous symptoms, in the second week there is usually listlessness, dulness, and hebetude. The patient desires to be let alone. At night there is, perhaps, muttering delirium, or even violent excite-

ment. The eyes are almost entirely closed. There is frequent twitching of the muscles. The tongue is tender and moved with pain. There is loathing of food, but rarely any vomiting. In the second and third week the pulse usually rises from 96 up to perhaps as high as 120 beats per minute. The frequency of the pulse, however, is not as great as in typhus and scarlet fever. The breathing is shallow and frequent, with some sonorous râles, perhaps, over the chest. The eruption commonly appears on the seventh or eighth day, and consists of spots of a rose-red color about the size of the finger-nail, seen usually on the belly somewhere between the nipple and umbilicus. These spots are but slightly, if at all, elevated above the surface of the skin. The spots are sometimes entirely absent throughout the fever. There is no proportion between the violence of the disease and the amount of eruption. One of the characteristic symptoms of this fever is profuse epistaxis; you see that this was entirely absent in the present instance. There is very rarely excessive thirst; the mind is usually too much dulled in its sensations.

The most widely different views have been expressed as regards the treatment of this disease. Each view has had, for the time being, at least, its advocates. This divergence of opinion is very easy of explanation, since the disease may be entirely different in different epidemics. In some epidemics there may be very great mortality. Others may be comparatively mild. These statements are true of all epidemic diseases. I will not, therefore, mention any of the specific treatments. Typhoid fever, too, more than almost any other disease, is modified by personal idiosyncrasies. It is one of the longest of specific fevers, and, consequently, taxes the strength to an unusual extent. If it be among the poor, the mortality, for these very reasons, may be exceedingly great, much more so than if the epidemic had attacked one of the higher classes of society.

The basis of our intelligent treatment of syphilis is iodide of potassium and mercury. No one knows why these remedies are so valuable in that disease. In typhoid fever we know of no specific remedy; we must consequently treat the disease according to its morbid elements. We know that typhoid fever is a specific

follicular ulceration of the alimentary canal. This is the most important element of the disease; most of its dangers are connected with this lesion, death resulting from either (1) excessive diarrhœa, (2) hemorrhage from the bowels, or (3) perforation of the intestinal wall. In addition to the above element we have to consider the blood-poisoning and the nervous symptoms generally present.

Are the ulcerated solitary glands and Peyer's patches the primary seat of the trouble? Does the blood become poisoned by septic influence from them, or is it poisoned by matters absorbed from other sources, and are the glands inflamed in removing the poison? To put the question more pointedly, are the glands ulcerated before the blood is poisoned, or ulcerated in removing the poison from the blood? In syphilis the glands of the body become enlarged as a consequence of blood-poison, whereas in diphtheritic sore throat the glands are swollen from the absorption of poisonous matters. We know that the poison of typhoid fever enters the system through the alimentary canal, that the glands of the intestines are *first affected*, then those of the mesentery, and then the other glands throughout the system. This lesion of the glands of the intestines must therefore have some connection with the origin of the disease. We have also to deal with a specific blood-poison in typhoid fever. This poison seems to consist of effete matter from the body of another person who has had the disease; at least this is the commonly received explanation. For my own part, I do not believe that this transplanted excrementitious poison is the only one, but think that the poison may be generated *de novo* from effete animal and vegetable matters.

The specific follicular catarrh of the intestines is of great importance in the determination of our treatment, for there cannot be a rational treatment of the disease which does not take it into account. There has arisen of late years a school of practitioners which has pinned its faith to an entirely expectant treatment, waiting upon nature. This same expectant treatment might be just as well employed in all specific diseases, for it is tolerably certain that if all diseases were treated alike, with the same food and the same drugs, the proportion of recoveries would be about as high as it is under the most improved

methods of treatment, provided, of course, that the number of cases considered be large enough. But this would not be intelligent therapeutics. Results, in a limited number of cases, are far better if we treat according to individual peculiarities than if we adopt one rigid form of treatment for all cases of typhoid fever.

And first, then, how shall we treat the follicular intestinal catarrh? There are, undeniably, certain remedies which exert a powerful influence upon this state of the intestinal mucous membrane. The first of these is nitrate of silver, which reduces the size of the enlarged follicles, relieves the inflammatory engorgement, and allays the hyperæsthesia of the nerves. So, too, with carbolic acid and the subnitrate of bismuth. But of the three the nitrate of silver is the most easily administered and the best tolerated by the system. It is also, undoubtedly, the most powerful in its soothing effects. Should there be any putrid element in the disease, carbolic acid should, of course, be used in place of the silver. In the vast majority of cases which have been under my care I have employed the nitrate of silver. This may be administered in doses of one-fourth of a grain four times a day. This treatment should be persevered in until the ulcers have entirely healed. Such a small amount of the drug can in no instance cause any discoloration of the skin.

Not only have we to subdue the ulceration, but also the resulting diarrhoea, which is occasionally excessive. If the discharge from the bowels is composed of small, semi-solid stools, it may with perfect propriety be disregarded, but if the stools are watery and large it must be checked. For this purpose I have been in the habit of using opium in pill-form, combined with the nitrate of silver. I give from one-quarter up to one grain of the powdered opium three times a day if the symptoms are urgent. If the bowels instead of being loose become constipated, I am accustomed to order belladonna conjointly with the nitrate of silver.

Then as regards the proper diet when this catarrhal inflammation of the intestines is present. The food must be, of course, as digestible as possible. Milk is the best diet in such conditions. If the curd appears in the stools, the milk should be diluted with water or lime-water. Of this mixture of milk and lime-water three

ounces may be given every two hours, or a little over two pints in the course of the twenty-four hours. When the bowels are torpid, beef or mutton broth may be given alternately with the milk, though neither of these is anything like as nutritious as the milk.

Indeed, as has been very thoroughly proven by Dr. Horace Hare in experiments made at the University laboratory, beef boiled in the good old-fashioned way in a bottle with water gives us a resulting solution which contains only about one-fourth of one per cent of nourishing material. The beef tea thus manufactured is chiefly a solution of the salts of meat, and is therefore not nutritive, and only valuable as a stimulant to digestion. But there is another way of making beef tea, which gives better results. Take a quantity of tender meat, and, after cutting off the fat, chop it up fine, put it in a bowl, pour a pint of water over it, and let it stand over night. It may possibly be well to keep the water just on a simmer: do not raise the temperature above 140° , however, or you will coagulate all the albumen, and so either leave it on the sieve in straining, or introduce it into the stomach in the form of curds. After this simmering solution has been allowed to stand over night, pour it into a pipkin and heat it again gently with enough salt to give it flavor, and, if necessary, add a drop or two of muriatic acid. Then pour it out over a hair sieve into a jar. The resulting solution will contain all the nutriment possible, and is the most valuable kind of stimulant and laxative.

Do not fail to recognize the fact that when the fever is high the patient needs all the food he can take. Acting upon this principle, I am in the habit of giving food freely in typhus fever. In typhoid fever, however, we must be careful that in allowing food we do not further irritate the already inflamed intestinal tract.

The poisoned state of the blood in this disease must be controlled by means of quinia, nitromuriatic or salicylic acid. Quinia is, of course, indispensable. Salicylic acid is valuable as a disinfectant and antiphlogistic: it is, however, slightly irritant. I should advise its use only where there is some putrid discharge joined with high fever. I give quinia in the form of the sulphate as a routine treatment, for it (1) neutralizes the effects of the septic

poison in the blood, (2) acts as a good tonic to the muscular and nervous systems, (3) tends to check febrile action, and (4) removes any malarial element that happens to be present. I never administer the enormous doses given by German physicians. It is very true that such doses will break down high fever, but joined with this good result there is so much unnecessary irritation of the mucous membrane produced that heroic treatment such as this should only be adopted as a last resort. I am in the habit of giving about twelve grains of quinia in the course of the twenty-four hours.

How are we to combat the febrile action itself? We have already tried to prevent it by means of careful diet, nitrate of silver, and quinia. I believe in keeping temperature down by preventive measures rather than by the cold bath, which I place among the very last resorts of the physician. It is almost unnecessary to say that I am wholly opposed to the indiscriminate cold bathing in typhoid fever so much in vogue in Germany at the present day. When the temperature runs up in spite of our drugs, I would advise, in the milder cases, spongings of the whole body every two hours,—the sponges to be squeezed out of a mixture of water and bay rum at a temperature of from 60° to 80° . If this does not succeed (it rarely fails), and the patient's temperature mounts up to 104° or 105° , then he must be wrapped in sheets wrung out of cold water. If the temperature still runs up to such an extent that life is threatened, I would then have the patient placed in a cool bath until the bodily temperature is sufficiently reduced. So far, therefore, from regarding cold baths as a proper mode of treatment, I would have them reserved for the gravest of all conditions only, and never employ them until the danger-point was reached. Before the local lesions set in, we can attack the fever more boldly, but when the fever in subsequent stages runs high, it is of the nature of a sympathetic fever, largely dependent upon the amount of intestinal lesion, and therefore the use of cold baths at this period is attended with great risk. If the cold bath is to be used at all (except as a last resort and when temperature can be reduced in no other way), the proper time for it is during the first seven or ten days in cases where the temperature rises above 103° and is not

controlled by frequent spongings, large doses of quinia, diaphoretics, etc.

As typhoid fever lasts so long, there is, of course, a great deal of prostration attending it, and stimulants are quite often called for. Now, I want to say a word to you with regard to the use of stimulants in this disease. Do not fall into the common habit of administering stimulants to a patient simply because he has typhoid fever. Stimulants are only demanded for the relief of certain symptoms. Children before the age of puberty are usually able to pull through an attack of typhoid fever without any stimulus. This patient before you has been carried safely through both first attack and relapse without a drop of stimulus. Stimulants are as a general rule only needed in the case of an old person, or to meet certain indications. These indications I may conveniently arrange under four heads, viz., (1) ataxic nervous disturbances, such as sleeplessness, twitchings of the muscles, maniacal delirium; (2) circulatory disturbances, such as feeble and rapid pulse, and feeble development of the first sound of the heart; (3) profound asthenia, as shown by great tremulousness, inability to make any movement, and tendency to slide down off the pillow; (4) dry and brown tongue, with sordes on lips, teeth, and tongue. You will usually be able to note at once the development of any of these symptoms, which of course render stimulation absolutely necessary if the patient's life is to be saved. In using stimulus it is well to begin with the milder forms, such as wine whey. This should be made in the proportion of one part of sherry to three of milk, and as much as a gill or half a pint of it may be given in the course of three hours. If the symptoms increase, however, it is a sign that stronger stimulus should be employed, and whiskey must then be given. I usually give whiskey in lime-water and milk, the lime-water preventing the coagulation of the milk by the alcohol. I make up the mixture in the proportion of one tablespoonful each of whiskey and lime-water to every three ounces of milk. In this form half an ounce of whiskey may be given every hour. Indeed, in some very serious cases I have administered as much as an ounce of whiskey every hour for a day and night in the crisis of the disease. If your stimulation is doing good, you will be able to note a diminution of all the serious symptoms. If, on the other hand,

the symptoms increase, you had better reduce the amount of stimulus given. Some authorities advise the use of stimulus to a slight extent in all cases after the middle of the second week of the disease. The occurrence of hemorrhage, pneumonia, or severe bronchitis always demands prompt stimulation. In some cases stimulants may prove a cause of irritation to the ulcerated glands, and so increase the secondary fever.

Before closing, there are a few points which I desire to impress upon your minds regarding the complications of typhoid fever and their treatment. This man is a very good illustration of one of these complications, viz., relapse. Relapses may occur at any time during the period of convalescence, and are always to be regarded as true second attacks of the disease. In the diagnosis of relapse be careful to search for any local cause, such as pneumonia or bronchitis; if none such can be found, you may be pretty certain that the relapse is a true one. It is very easy to understand how a relapse may occur, when we consider that it is nothing more or less than a return of inflammation to the glands of the intestines: some of the ulcers have healed, perhaps, and others have not progressed quite so far, when another crop of glands go on to ulcerate. When relapse appears, treatment must be resumed at once, the diet restricted, and the same general watchfulness had over the state of the case as during the course of the first attack.

This man's relapse was heralded by a series of copious hemorrhages from the bowels. Hemorrhage, as a complication of this disease, must for a moment engage our attention. Hemorrhage may take place at any time while the bowels are ulcerated. It generally occurs at one of two periods,—either early in the attack, when it is of little or no consequence, or later, when the sloughs are thrown off from the ulcers. Hemorrhage at this time is always a serious matter, it may be very fatal, producing death in the course of a few moments. Be careful, therefore, to have every dejection examined by the nurse.

The treatment of hemorrhage is by absolute rest in bed for twenty-four hours, and by the administration of opium to produce absolute quiet for the alimentary canal. In cases of hemorrhage I am in

the habit of giving opium by the mouth, or, better still, by the rectum. I prefer the solid opium, and prescribe one grain every two or three hours until the patient is gently under its influence. Then we have certain astringents which act locally. Of these, acetate of lead is perhaps the best: a suppository containing three grains of this drug and one grain of opium may be given three or four times daily. Ergot, by reason of its action on the walls of the arterioles, is invaluable in such hemorrhage. It may be given by mouth, rectum, or hypodermically near the supposed seat of hemorrhage. The food taken should be very small in quantity and absolutely liquid. If treated promptly, in the vast majority of cases the bleeding will be promptly stopped.

The last and most serious complication is perforation of the bowel. This is also most likely to occur late in the disease when the sloughs are thrown off. Though not common, it can easily be produced by walking about, or eating indigestible food while the ulcers are unhealed. The symptoms are sharp pain, sudden collapse, sighing breathing, and thready pulse. It is more liable to happen in old than in young persons. No one ever got well who had a true perforation. The inflammation may bring on peritonitis, and the symptoms of peritonitis may simulate those of perforation. Peritonitis must be treated by antiphlogistics, sedatives, perfect rest in bed, and a diet which leaves no residuum to irritate the bowels. Of course incision of the abdomen and suturing of the intestinal lesion is out of the question in cases of perforation, owing to the specific condition of the inflamed glands.

[January 25.—I bring the patient before you to-day entirely convalescent. His tongue is clean, his pulse about normal, his bowels regular, and his fever gone. There has been no return of hemorrhage. The man is indulging in a mixed diet and plenty of exercise. He has given up the nitrate of silver altogether. During the last day or two he has been taking cod-liver oil and iron to fatten him up.]

EXTRA-UTERINE PREGNANCY.—Dr. Henry Gervis reports (*British Medical Journal*, December, 1877, p. 884) a fatal case of extra-uterine gestation in which abdominal section was practised.

ORIGINAL COMMUNICATIONS.

BELLADONNA AS A REMEDY FOR COLLAPSE.

BY REINHARD WEBER, M.D.

EVERY physician in active practice has undoubtedly noted more than once the comparative inefficacy of our remedial agents for a state of collapse, particularly that state of collapse which we find so frequently in inflammations and other diseases of the abdominal organs. How often do we prescribe camphor, musk, and alcoholic stimulants with the hope of restoring the failing action of the heart and the natural warmth of the extremities, which are bathed in a cold and clammy perspiration, and how often are we disappointed! By drawing attention to a remedy not before used in such contingencies, I hope to render my colleagues a service that may not prove unwelcome, particularly as the remedy I intend to recommend has the advantage of being easily administered internally as well as hypodermically. Such a remedy, experience has convinced me, we possess in belladonna. Not that I intend to praise belladonna as a *certain* remedy for all cases of collapse, for that would be absurd; but I feel bound to express my conviction that belladonna is more effective in many cases of collapse than the remedies mentioned above. I was first induced to commence my investigations by an article in a German medical journal, in which the writer declared belladonna antagonistic to digitalis, and the best antidote against poisoning by digitalis. But this writer did not recommend belladonna for collapse. In fact, this word was never made use of in his article. Not very long after having read this, the following case came into my hands:

Case I.—William H., aged 8 years, was taken sick with scarlatina. The fever was of moderate severity, and appeared to be nearly gone by the tenth day; desquamation was in fair progress. Two days later he was seized with a more violent attack of fever than in the beginning; pulse 128, temperature in the evening above 104 degrees, in addition synovial irritation of the joints, just as in inflammatory rheumatism and endocarditis. Urine very scanty, but free from albumen. As the patient could not keep quinine on his stomach, an infusion of nine grains of digitalis was ordered to be used all in twenty-four

hours; besides this, milk-punch. The patient continued with this treatment for five days without any apparent effect of the digitalis on the pulse, temperature, or kidneys. Then, after having used forty-five grains of digitalis in infusion, the toxic effect of this drug appeared suddenly, and I was sent for early in the morning. I found the patient in a state of collapse,—cold extremities, covered with a profuse perspiration, countenance pale, and features contracted, vomiting, and a pulse of 52 per minute and quite irregular. I prescribed ext. belladonnæ, gr. $\frac{1}{4}$, acid. sulphuric. dilut. \mathfrak{ss} , with syrup of ginger and water q. s. to make twelve fluidrachms; a teaspoonful of this to be taken every hour. At the expiration of twelve hours I found my patient greatly changed for the better; pulse now 64 per minute, quite regular, and very strong; extremities warm and natural; no vomiting, and a plentiful excretion from the kidneys. From now the recovery of my patient was a speedy one, and he is looking more healthy at present than before his sickness; but auscultation still shows the presence of mitral insufficiency.

The experience of this case matured my resolution to give belladonna a fair trial in the next case of collapse that should come into my hands. The first opportunity offered was in the following:

Case II.—Mrs. H., aged 41 years, had been attended by another physician for five days; suffering from gastro-enteritis. I found her in a high state of collapse, as will be seen from the following symptoms: almost constant hiccough for twenty-four hours, frequent vomiting of bloody matter resembling black vomit, and frequent diarrhœa, cold and cyanotic condition of her extremities, and great tympanitis, with tenderness of the abdomen, pulse quite small and very frequent, lungs and heart apparently without organic disease. As alcoholic stimulants had been ordered already by her first medical attendant and without apparent result, I concluded to try belladonna. I prescribed

\mathfrak{R} Ext. belladonnæ, gr. i;

Tr. opii, gtt. xx;

Potass. chlorat., \mathfrak{zss} ;

Aquæ menthæ pip., $\mathfrak{f}\mathfrak{z}\mathfrak{iii}$.—M.

To be used all within twenty-four hours. No other medicine, except an injection of starch-water, with twenty drops of laudanum, for the diarrhœa. The next day I found this patient much better; the hiccough had ceased, the circulation in the extremities appeared much better, and the vomiting was less frequent, and was green instead of bloody. On the fourth day of my attendance, natural warmth of all the extremities, pulse strong,—from 90 to 100 beats per minute,—vomiting and diarrhœa had ceased, and the tympanitis and tenderness of the abdomen were greatly lessened. Three days later, the gastro-enter-

itis apparently over; patient complains of hunger, and is quite cheerful, but appears still very weak. Up to now the same treatment had been persevered with; the dose only had been reduced one-half after the extremities had resumed their natural warmth. After this Mrs. H. improved steadily on a quinine and muriatic acid tonic and a good diet, but she was not strong enough to sit up until two weeks later.

Case III.—Anna S., aged 6½ years; was in the fourth week of a rather severe typhoid fever. Her disease had been marked so far by high degrees of temperature, following chills in the forenoon, notwithstanding the use of quinine. Besides, she had general bronchitis, and she complained a great deal of an exquisite tenderness between the umbilicus and processus ensiformis. In the middle of the fourth week I was suddenly sent for again in the evening, and found her in a state of severe collapse; almost ice-like coldness of her extremities, with blueness of the skin and of the lips, respiration difficult, and 42 per minute; pulse very frequent and hardly perceptible; no signs of pneumonia, but dry and moist rhonchi all over the chest. No other change was made in her treatment but the addition of one-quarter of a grain of ext. belladonnæ to two ounces of a quinia solution which she had been taking before. This quantity I directed to be used all during the next twelve hours; besides this, milk-punch in the doses in which it had been given already for several weeks. The next morning I was agreeably surprised by the condition of my patient. Her limbs were of natural temperature and color; her pulse strong and 100 per minute; her respirations but 22 per minute, and *all the signs of bronchial obstruction had completely disappeared*. The child was cheerful, and played with her doll. From then her recovery progressed without any interruption.

As some of my readers may doubt whether such small doses of belladonna as I have given in these three cases could exert a pronounced remedial effect on the system, I feel bound to lay special stress upon the following points. All of these patients complained of dryness of their throats, and their pupils were widely dilated. Mrs. H., as long as she was under the influence of belladonna, was frequently troubled with visual hallucinations, such as rats running over her bed, and Anna S. cried repeatedly for over half an hour, rubbing her hands and arms in an excited manner, wiping off imaginary roaches.

If space permitted, I could multiply similar cases to prove the efficacy of belladonna for the symptoms of collapse; but these are sufficient to show the utility of

the remedy. I shall now attempt to give my explanation of the *modus operandi* in which the belladonna produces its effects.

Theory of the action of belladonna in a state of collapse.—Here I find it necessary first to answer the question, Which is the principal element in those cases of collapse as we see it so often in inflammations and other diseases of the abdominal organs? What causes the smallness of the pulse and the coldness of the periphery, while the thermometer introduced into the rectum shows higher degrees of temperature than normally, and while the patient swallows ice in lumps to relieve the burning heat of the internal organs? The answer which appears to me most plausible is, A state of dilatation of the arteries and arterioles in the abdominal cavity, caused by an *anergia* of the vaso-motor system of nerves. I must here refer my readers to the well-known experimental effects resulting from section of the nervi splanchnii, which always produced symptoms similar to cholera-collapse. I must also cite an old experiment, made first by Claude Bernard, and repeated by many others. Claude Bernard cut the cervical sympathetic of a rabbit on its right side. The consequences were vaso-motor paralysis of the right side of the head and face. The temperature, which before the section had been equal in both ears and had shown 94 degrees of Fahrenheit, now rose on the paralyzed side to 100 degrees, and *sank* on the sound side to 91 degrees. But if Claude Bernard stimulated the divided part of the cervical sympathetic by means of electricity, there followed immediately a *fall* of the temperature of the paralyzed side, and a *corresponding rise* in the sound one. I believe the action of belladonna to be similar to that of the electricity in the experiment cited above, assuming, *quite contrary to most authorities in materia medica*, a stimulant effect of the belladonna on the sunken energy of the vaso-motor nerves, instead of a paralyzing action, and, as a consequence of such an effect, a diminution of the passive congestion of the abdominal vessels, and a corresponding fuller circulation of the periphery and the nervous centres. Further, the effect which belladonna has on the cervical sympathetic, through which it quickens the beats of the heart and at the same time strengthens them,—as Meuriot has proved by the sphygmograph,—has a *share* in the good

result. But, in order to prove that my assumption of a *stimulating* influence of belladonna on the coats of the arteries is not an arbitrary or merely subjective one, I cite the following from Nothnagel's "Materia Medica:" "Atropia, when brought upon the web of the frog's foot, produces very quickly a contraction of the smaller arteries, seen by Meuriot, Flemming, Jones, and Hayden. Further, belladonna produces a contraction of the arteries of the spinal marrow similar to ergotin (Brown-Séquard)." Notwithstanding this, we find Nothnagel explains the increased frequency of the heart's action, following the use of belladonna, by a paralysis of the inhibitory nervous fibres running in the pneumogastric nerve. The theory which ascribes to belladonna merely a paralyzing agency can, as I firmly believe, not be made to agree with my observations, nor with the long-known facts of the influence which belladonna exerts on the secretions of the salivary glands, mammary and sweat glands.

Finally, I consider it necessary to give special prominence to the following two points: First, I claim the stimulating influence of belladonna on the vaso-motor nerves only for medium doses of the remedy, as it is easy for me to conceive of quite a contrary effect of large and toxic doses, for which we have an analogy in digitalis, alcoholic stimulants, etc.

Secondly, regarding the so-called antagonistic action of belladonna and opium, I have often prescribed the two together, and have never seen a marked diminution of the effects of belladonna by opium or morphia, with the sole exception of *that* upon the pupils.

In conclusion, I would add that it does not appear to me improbable, although I have at present only theoretical reasons for my belief, that in future we will find in belladonna one of our most valuable remedies for the treatment of *cholera-collapse*.

854 NORTH FIFTH STREET, PHILADELPHIA.

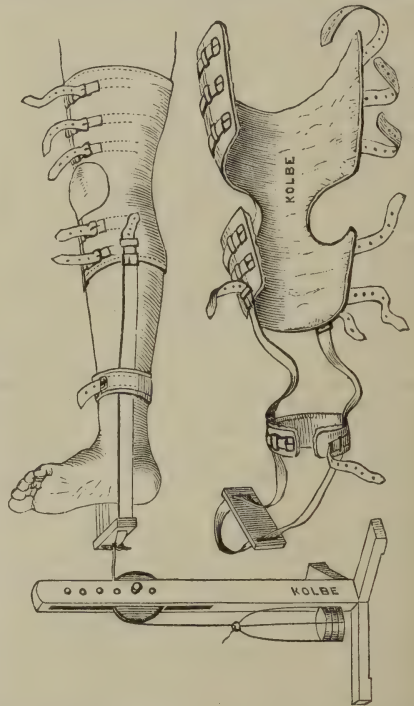
REPORT OF CASES OCCURRING IN THE PENNSYLVANIA HOSPITAL.

SERVICE OF DR. T. G. MORTON.

By W. C. Cox, M.D., Surgeon to the Out Department.

CASE I.—*Compound Fracture of Tibia and Fibula, and Fracture of the Femur; New Extension Apparatus.*—J. C., aged 43, admitted September 12, 1877. While working in a

mine, he was struck by a piece of coal weighing more than a ton, which rolled down on him from a distance of five feet, and at an angle of 50°, striking his right leg and thigh, causing a compound fracture of the tibia and fibula about the middle, and a simple fracture of the upper third of the femur of the same side. The leg was placed in a fracture-box, and dressed with laudanum and extract of lead. The thigh was kept in position by means of a sand bag on the outside. At the end of a week, as there was considerable shortening, extension of the femur was deemed best. The long Desault splint was applied to steady the leg and thigh, and extension was then made by placing on the leg Dr. Morton's apparatus (see figure). By this means the compound fracture of the leg was easily dressed and examined, thigh-extension being conducted at the same time without any interference with the compound leg fracture.



The case progressed nicely, and on October 1, union of femur and leg bones being quite firm, the apparatus was removed and paste-board splints applied. There was a shortening of only one inch.

The advantage of this form of extension apparatus is that it can be easily removed, and the condition of the limb examined from time to time; this apparatus has been used by Dr. Morton for extension in most of his cases of fracture of the thigh, as it

is readily adjusted, cleanly, and simple in adaptation. Dr. Morton has also used this apparatus for years past with great advantage in cases of coxalgia, where the patient is up and about during the day with an extension brace, and when it is desirable to keep up extension at night; this apparatus being more readily applied than the ordinary adhesive plaster. In the case of the compound leg and thigh fracture just detailed, it would have been impossible to use the long strips of adhesive plaster, since the compound character of the fracture of the leg was at the part where the strips would necessarily have been placed. Any attempt to make extension by an apparatus such as a gaiter upon the foot itself should not even be entertained, as such an amount of extension so long continued as would be required in a fracture of the thigh would most surely excoriate the foot from pressure upon it.

Case II.—Enchondroma of Testicle; Extirpation; Cure.—O. V., aged 28, admitted October 4, 1877. In January last was thrown from a sleigh, and the following day had considerable pain and swelling of the left testicle; the patient thinks the organ was not injured in the fall. The testicle continued to increase in size until admission, when it was the size of an orange, very heavy, and having an almost stony feel. The tumor was not painful, with or without pressure. The tumor was diagnosed as one of enchondroma of the testicle. Removal of the degenerated gland was advised, and performed by Dr. Hunt on October 5. An incision was made over the tumor, and, the cord being isolated, the écraseur was applied,—a ligature being first passed through the cord in case of hemorrhage. The wound was closed with silver sutures and dressed with carbolized charpie. During the following twenty-four hours had slight hemorrhage, which was easily controlled by pressure; hemorrhage recurring, a pin was passed through the cord and a ligature thrown over it. The wound rapidly closed, and he was discharged cured November 11. An examination was made by Dr. Fricke, who writes as follows:

"Oct. 6, 1877.—The microscopic examination of the piece of degenerated testicle shows it to be a very decided example of enchondroma,—that rare degeneration of the testicle."

Prof. Leidy, to whom I submitted a part of the specimen, writes that "it proved to be an undoubted enchondroma, the tissue having all the normal character of cartilage. It probably had its origin from the connective tissue of the tunica albuginea or the corpus Highmorianum."

(To be continued.)

THE EFFECT OF ELECTROTONUS ON THE RAPIDITY OF THE TRANSMISSION OF NERVE-FORCE.

BY ISAAC OTT, M D.

IT is known that when a galvanic current traverses a nerve it is said to be in a state of electrotonus. The part of the nerve about the negative pole is in a state of increased excitability called katelectrotonus; the part of the nerve about the positive pole is in a state of decreased excitability called anelectrotonus. The nerve-section lying between the poles is called the intra-polar part; those outside the poles the extra-polar parts, anelectrotonic or katelectrotonic according to the pole. Extra-polar katelectrotonus means that part of the nerve outside the negative pole, extra-polar anelectrotonus means that part of the nerve outside the positive pole. To measure the rapidity* of nerve-force, I employed a Marey-Foucault regulator on one of whose wings was a projecting point, which (when the glass disk on the central axis attained a certain velocity) expanded and struck a bridge which opened a current in the primary coil of Dubois-Reymond's apparatus. This induced a current in the secondary spiral, which was sent to the nerve in Rosenthal's rheophoric box, or to the muscle by means of Pohl's commutators. By this means a quite uniform rate of speed was obtained at each registration, and the current was always broken at the same time. The poles used in the box were of platinum, as well as the polarizing electrodes. Unpolarizable electrodes were not necessary. Several observers have studied the effect of the galvanic current on the rapidity of the transmission of nerve-force, but Von Bezold† is the only one who has studied it minutely. He proved that neither polarization of the muscle nor of the nerve attached to the muscle had any effect worth noticing on the latent time of muscular contraction. The latent time means that the muscle takes about one-hundredth of a second after the electric irritation is received to commence to make a movement,—that is, a contraction. In my experiments I took care that this latent time was not altered during the experiment by surrounding circumstances. In the following ex-

* Journal of Nervous Diseases, 1878.

† Untersuchungen über die electricische Erregung der Nerven und Muskeln, Leipzig, 1861.

periment the nerve was irritated within five millimetres of the muscle, and afterwards a few centimetres up the nerve. Between these exciting electrodes a polarizing current from two carbon-zinc cells was traversing three millimetres of the nerve. The distance between the curves when the nerve was irritated near the muscle and at a distance was compared with that obtained after passage of polarizing current.

- Exp. I.*—Nerve-muscle preparation, T. 13 C.
 3.0 P.M.—Normal distance between curves, 4 millimetres. Descending electrotonus for a few minutes.
 3.5 P.M.—Distance between curves, 5 millimetres. Ascending electrotonus for a few minutes.
 3.10 P.M.—Distance between curves, 6 millimetres.

In this experiment, the modifications of the nerve by anelectrotonus and katelectrotonus united come into play, and, as is seen, the rapidity of the transmission of nerve-force is lessened by them. Where a number of polarizing cells are used for some time, no transmission takes place at all. Hence ascending and descending electrotonus decrease the rapidity of the rate of movement of nerve-force. Here both intra-polar and extra-polar anelectrotonic and katelectrotonic conditions come into play; the effect of these separately is an interesting question to study in their relation to the velocity of the vis nervosa.

Extra-polar katelectrotonus.—The effect of this state is the subject of dispute. Von Bezold holds that it diminishes the rate of movement of the nerve-force. As is known, the negative pole produces here a state of increased irritability of the nerve. Wundt* states that shortly after the polarizing current is turned on, the rapidity is increased. Prof. Rutherford,† of Edinburgh, also has made a similar statement, and that strong currents which reduce the irritability of the nerve at the negative pole reduce the rapidity. Here the polarizing electrodes were placed outside of the exciting electrodes, the negative pole being nearest the farthest pair of exciting electrodes. I made a number of experiments with weak and strong currents.

Experiment II.—Nerve-muscle preparation, T. 4 $\frac{2}{3}$ C.

- 2.48 P.M.—Normal distance between curves, 3 millimetres. Extra-polar katelectrotonus for fifteen seconds.

- 2.54 P.M.—Distance between curves, 1 millimetre.

Here the polarizing current was generated by one carbon-zinc cell.

As is seen, Von Bezold used too strong currents and for too long a time. With two polarizing carbon-zinc cells for a few minutes I always found the rapidity diminished.

Extra-polar anelectrotonus.—Here, as Von Bezold observed, I always found the rapidity decreased.

The effects of the intra-polar conditions of the nerve remain to be studied, as regards their effect on the rate of transmission of nerve-force.

Intra-polar anelectrotonus and katelectrotonus.—Here one of the polarizing poles is placed between the exciting electrodes. I always found that they diminished the rapidity of movement, as Von Bezold proved.

From the above observations, it is seen that the galvanic current alters not only the irritability of the nerve, but also the rate of movement of the vis nervosa. These experiments bring out the question of the relation between the irritability of the nerve and rate of movement of its nerve-force. It is quite probable that there is a definite relation between them: thus, woorari, which lowers the irritability of a nerve, also lowers the velocity-rate, whilst strychnia increases the rapidity of transmission of the nerve-force. Stretching‡ a nerve to a considerable extent also lowers the irritability and rapidity. Whether weak stretching, which excites nerve-irritability, increases it, I have not investigated.

The following résumé expresses my conclusions:

1. Electrotonus diminishes the rapidity of the movement of the nerve-current.
2. Intra-polar and extra-polar anelectrotonus also slow the current.
3. Extra-polar katelectrotonus increases the rate of transmission.
4. Intra-polar katelectrotonus diminishes it.

ECHINOCOCCUS AND TAPEWORM. — Dr. Francis Druder details (*Virginia Medical Monthly*, December, 1877) a case in which fluid of echinococci was drawn from the liver by aspiration, and tapeworm passed from the bowels during exhibition of pomegranate rind decoction, with apparent recovery.

* Untersuchungen zur Mechanik der Nerven und Nerven-centren, Erlangen, 1871.

† Lancet, 1871.

‡ Ohio Medical and Surgical Reporter, 1878.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

SERVICE OF DR. WM. GOODELL.

Reported for the *Medical Times*.

PELVIC PERITONITIS AND PELVIC CELLULITIS.

THESE two affections are usually found combined, so I rarely attempt to distinguish between them. (Pelvic peritonitis is an inflammation of the parts of the peritoneum adjacent to the womb, while pelvic cellulitis is an inflammation of the underlying cellular tissue.) I will therefore lecture upon them conjointly.

You will remember that I operated upon this woman on December 2 for stenosis of the cervical canal. On the 3d, the day after dilatation, her temperature suddenly ran up to 102° , and she had a series of chills and very severe pain in the region of the womb. On two occasions since the operation the temperature has risen to $103\frac{2}{3}^{\circ}$. This has been a typical case of pelvic cellulitis and peritonitis.

This disease may follow any operation,—the very slightest perhaps. It usually begins with a rapid rise in temperature, chills, and agonizing pelvic pain. Generally the attack is slight and easily subdued, but here it has been otherwise. In the more serious cases, such as the present, there will be marked night-sweats, meteorism, dysuria, etc., etc. What do these symptoms mean? The pain is due, of course, to the inflammation and plasma thrown out. The chill is the result of nervous impression, while the dysuria is caused by an exudation in the neighborhood of the bladder, which presses upon it.

The causes of this disease may be very slight. I have already said that it may follow any operation upon the female genital organs. Last year I had a case in which it was produced by the introduction of the uterine sound.

The womb in its natural position floats like a ship at anchor, and, just as the ship is frozen in during winter, so pelvic peritonitis and cellulitis bind down the womb,—plasma is thrown out all round, changing the broad ligament into a board-like consistency, and securely fixing the womb. Upon examining this woman with one hand on the abdomen and one finger in the vagina, I find the womb bound in on all sides by the exudation. The parts,

too, are tender to the touch. There is a hard body above the womb extending fully half-way up to the umbilicus. This is an agglutination of the intestines and omentum. Nature, you see, is always alive to an emergency, and prepared to protect herself. She sees an inflammation beginning near the womb, and all the tissues giving way before it. Immediately she sets to work to form a barrier to its progress. She sets up a process of agglutination between the omentum and intestines, and causes them to become adherent to the margin of the pelvic peritoneum, and so prevents the inflammation from spreading.

As regards the treatment of this disease, first be sure that you recognize it. You have performed an operation, perhaps, and in the course of the next forty-eight hours the woman sends for you suddenly. Upon your arrival you find all the pathognomonic symptoms. Administer at once a full hypodermic dose of morphia, and from ten to twenty grains of quinia by the mouth. If you take these measures promptly you will often stop the disease at once.

If you cannot abort the attack you must take up the treatment regularly,—paint the abdomen with iodine and put on a poultice. Now, some persons use as many as half a dozen poultices daily. The reason of this is that the poultices, being uncovered, dry up rapidly. If the poultice is covered with oiled silk, or greased brown paper, one poultice will remain soft for twenty-four hours. All this time you must keep your patient under large doses of quinia. If the temperature is high she should have ten grains at a time, and from thirty to forty grains in the course of the day. Large doses of morphia must also be given. If the woman be plethoric the morphia may be given by the mouth with neutral mixture and wine of ipecac, or in some other fever mixture. In some cases tonics are demanded. If the sickness lasts for more than a week, and the local tenderness increases, put on a blister promptly.

Later, you will find that muriate of ammonia is a very excellent remedy in this disease; so, too, is aconite. I usually prescribe the following:

R Mist. glycyrrhizæ comp., f3vi;
Ammoniaë muriatis, ʒii;
Hydrarg. chloridi corrosivi, gr. i;
Tinct. aconiti radicans, gtt. xxiv.

M. S.—A tablespoonful in water every six hours.

As concerns routine treatment, the patient should take plenty of milk, whiskey, beef tea, and large doses daily of dialyzed iron.

TRANSLATIONS.

NERVOUS HÆMOPTYSIS.—Carré (*Chl. f. Med.*, 1877, p. 744; from *Archives Gén.*) has endeavored to ascertain whether nervous hemorrhages—that is, those which occur during the existence of neuropathic conditions, as hysteria—are the result of the neuropathy or are only accidental complications. Certain physiological and clinical facts, *e.g.*, that form of hemorrhage from the lungs which occurs in young animals after section of the vagus, or destruction of the pons, the pedunculi cerebri et cerebelli, or the medulla, are in favor of the former view. In addition, it is known that section of the cervical ganglia of the sympathetic is followed by hemorrhage into the pleura and lungs. Carré also alludes to that form of lobular pneumonia which occurs, particularly in old persons, as a result of cerebral hemorrhage, and to those lung-complications which accompany cerebral affections, as tubercular meningitis. Among the changes in the lungs which appear in connection with affections of the central nervous system Carré mentions hyperæmia, emphysema, inflammation, and apoplexy, with which are found at the same time hemorrhages into the skin and abdominal organs, hæmaturia and enterorrhagia.

Carré adduces notes of twenty-two cases going to show the connection between nervous troubles and hemorrhages from the lung. Of these, three were of disease of the cord, one multiple cerebral hemorrhage, ten hysterical affections, one chorea, six epilepsy. The other case was that of a girl of fourteen, who was attacked at the period of her first menstruation with headache, vomiting, and mental disturbance. She became emaciated, and suffered from epileptic onsets occurring at the periods of expected menstruation. Soon after followed cough, with expectoration of blood. The latter frequently occurred simultaneously with the epileptic attacks. The case ended fatally. At the autopsy an abscess was found in the upper part of the right lung, together with oedema of the brain.

The number and variety of observations in which bleeding from the lung has been

noted in connection with neurotic affections are so great as to put the accidental concurrence of these symptoms out of the question. The quantity of blood passed varies from the smallest trace tinging the sputa up to streams of pure blood. The hemorrhage is, however, never so profuse as in the hemorrhage of tubercular phthisis. It frequently coincides or alternates with other forms of bleeding, as epistaxis or hæmaturia, enterorrhagia or cutaneous hemorrhage. Occurring simultaneously also with pulmonary hemorrhage, Carré has observed certain vaso-motor symptoms,—turgescence of the cutaneous and cervical vessels, enlargement of varices during the hysterical crisis, alternate blanching and flushing of the face in hysteria and epilepsy, circumscribed swellings on the forehead, reddening of the skin, and morbilli or rôtheln-like exanthemata, punctiform ecchymoses, and erysipelatous conditions. Physical examination of the lungs gave negative results, excepting in one case, where the pulmonary hemorrhage was shortly followed by acute phthisis. Coinciding, as it frequently does, with hysteria, this variety of hemorrhage of the lung is more common among women than among men. There is nothing regular about its recurrence in most instances. In cases where the nervous paroxysm recurs at regular periods the pulmonary hemorrhage follows shortly after the crisis, or occurs just before or alternates with the former. It seldom occurs at the same time. Carré does not include under the designation “nervous hemorrhage” those vicarious bleedings which take place on the cessation of menstruation.

Carré explains pulmonary hemorrhage taking place under the circumstances above described, by the theory of vaso-motor paralysis, which must be regarded as the result of a stage of excitation on the part of the vaso-motor centres. Both the neuroses (epilepsy, chorea, hysteria) and also the cerebro-spinal diseases with perceptible anatomical lesions, which have pulmonary hemorrhage as a result, lead, by means of the sympathetic, first to a narrowing then to an enlargement of the vessels, which last permits the hemorrhage. It is for this reason that the latter *follows* the neuropathic paroxysm.

The prognosis of these hemorrhages depends upon the character of the original lesion. Of themselves, they never cause

death. Those cases are most threatening in which multiple hæmoptyses are connected with bloody sputa. Treatment depends upon the character of the original affection. Astringents are called for only in cases of profuse hemorrhage. Blood-letting is usually harmful. Baths and derivation by the skin are sometimes useful. According to Carré's experience, arsenic and quinine are chiefly to be recommended, for these arouse the contractility of the capillaries directly, while they act indirectly by means of the nervous system upon the medulla and the vaso-motors. X.

THE THERAPEUTICS OF SANTONIN-POISONING.—C. Binz (*Cbl. f. Med.*, 1877, p. 748; from *Archiv f. Exp. Path.*) gives the case of a child two years of age, who took two troches containing together three-fourths of a grain of santonin. Ten hours later, no stool having followed, occurred clonic spasm of the right side of the face, spasmodic direction of both eyeballs to the left, dilatation of both pupils (left most), now and then strong contraction of the latter. Later, the left arm, then the left leg, then the right side also, became affected. Together with these symptoms, trismus with disturbance of respiration during the attacks was observed. Pulse normal; urine intense yellowish-green. Enemata of vinegar, and artificial respiration, were employed, and after four days the attacks gradually ceased. Binz also made some careful experiments as to the effect of santonin upon frogs, the results of which are detailed in the original memoir. In cases of santonin-poisoning, Binz recommends that chloral hydrate be first administered, and until this begins to produce its effect ether may be employed in the separate paroxysms. X.

TOXIC PROPERTIES OF GLYCERIN.—In an article on glycerin published in *Jornal de Pharmacia de Lisboa* and copied in *Giornale di Medicina Militare* (1877), No. 9, pp. 901-903, the author sums up as follows. Chemically pure glycerin when introduced hypodermically into the body of a dog in doses of eight to eighteen grammes for every kilogramme of weight of the animal, produces in the course of twenty-four hours fatal toxic symptoms. These symptoms (acute glycerism) present many points of similarity with those of acute alcoholism; and the lesions found after death are so analogous that they induce the belief that the former agent acts in

about the same manner as alcohol. In a therapeutic point of view, it is desirable to know how much danger attends the introduction of large quantities of glycerin into the human organism. J. B. R.

INTERSTITIAL GLOSSITIS OF SYPHILITIC ORIGIN.—Dr. Ch. Mauriac has published an interesting account of this affection (see review in *Le Progrès Médical*, 1877, No. 45, p. 853). The affection is rather rare, and not very well known. It is in character similar to syphilitic sarcocele, and consists of a sclerotic inflammation of the fibrous partitions separating the delicate muscular fasciculi of the organ. The affection begins always on the dorsal surface, at first being superficial, and then invading the deeper tissues. It is more frequently met in men than in women, and perhaps has some connection with the use of alcohol and tobacco. There appears to be a hypertrophic and an atrophic period. In the former the enlarged, hard, and painful tongue presents on the dorsal aspect hollow furrows filled with macerated epithelium. There are noticed large papillæ, and often ulcerations, at the points where the tongue touches the teeth, or in the bottom of the above-mentioned furrows. The second stage is that of retraction of the new tissue, and then there occurs a deep antero-posterior fissure, with several irregular fissures. Finally, as atrophy progresses the organ becomes smooth and shining, is divided into little lobules, and gives the sensation of a tongue made of wood. Specific treatment is seemingly of some service in the early stages, but is entirely useless when the disease is advanced. J. B. R.

ATROPIA FOR THE TREATMENT OF PATHOLOGICAL SWEATING.—At a meeting of the Academy of Medicine, M. Vulpian presented a paper by M. Royet on this subject (*La France Médicale*, 1877, No. 90, p. 716), containing the results of observations made in the service of Vulpian, and remarked that the inefficacy of most remedies, especially in the night-sweats of phthisis, was well known. He believes that by pilules of sulphate of atropia, containing one-fiftieth of a grain, these night-sweats can surely be prevented. Generally one or two such pills are sufficient, but in some cases the dose must be increased to four pilules. These experiments serve to confirm those of Da Costa and others, made some years ago and published in the *Philadelphia Medical Times*. The objec-

tion to the remedy is the dryness of the throat which results during the employment of the drug; and it has been proposed to give the atropia in combination with jaborandi.

J. B. R.

NERVOUS ASTHMA CURED BY SUBCUTANEOUS INJECTIONS OF ARSENIC.—Martelli reports the case in *Gaz. Medica-Italiana*, which is translated in *La France Médicale*, 1877, No. 92, p. 731. The patient, aged 30 years, and of nervous temperament, was slightly emphysematous from the asthmatic attacks, but had no cardiac lesion. Chloral, morphia, and the ordinary remedies were tried in vain; but though arsenic administered by the mouth had done no good, yet hypodermics of Fowler's solution not only cured the attacks but suspended for a time their return. Some time subsequently he had asthma again, but it was arrested at the first paroxysm by two hypodermic injections of solution of arsenite of potassium.

J. B. R.

PROPHYLAXIS OF HYDROPHOBIA.—M. Proust, who presented a study of the cases of hydrophobia observed in France from 1850 to 1876, deduces the following conclusions (*Le Progrès Médical*, 1877, No. 45, p. 848). Cauterization, being the prophylactic remedy employed so frequently, should be studied statistically, in regard to the variety of caustic used, the manner of application, and the time between inoculation and cauterization. Prompt and thorough cauterization is the only hope after being inoculated. The public should be made familiar with the first symptoms of canine rabies, because house-dogs may inoculate by their poisonous saliva before they show distinct madness; and, moreover, people should know the erroneous nature of the popular idea that canine rabies is always characterized by fear of water. Police regulations should be enforced in winter as well as summer, and against suspected animals as well as those really sick. The owner of a rabid animal that has caused serious accidents, or inoculated a human being, ought to be prosecuted officially, in addition to being liable to suit for damages on the part of the family of the deceased.

J. B. R.

A CASE OF HEMERALOPIA FOLLOWING CATARRHAL JAUNDICE TREATED BY ALKALIES.—M. André Martin, in *Le Mouvement Médical*, 1877, No. 45, pp. 508-512, gives an interesting history of a case of this kind. A soldier had suffered with hemeralopia, but recovered in three months.

Four years subsequently he was attacked with jaundice, which was treated by emetics, rhubarb, and calomel, followed by bicarbonate of sodium. One month after the jaundice appeared, hemeralopia was observed, so that he could scarcely walk in the dark. Accurate ophthalmoscopic examinations were made, showing specially small arteries, turgescient veins, and in one eye two spots of choroidal atrophy. The patient finally recovered under the use of quinine, iron, and arseniate of sodium, in about two and a half months. The author enters upon a lengthy discussion of the views held regarding the etiology of the affection, as malaria, atmospheric variations, etc., and finally concludes that his case, which was certainly, he says, not one of malingering, depended upon malnutrition due to the preceding jaundice and the alkaline and the purgative treatment to which the patient was subjected. He objects to the name essential hemeralopia, because the ophthalmoscope will afford evidence of lesion in such cases, as a rule, and proposes the term hemeralopic retinitis.

J. B. R.

LESIONS OF THE PANCREAS IN CERTAIN FORMS OF DIABETES.—M. Lancereaux has presented some specimens to the Academy of Medicine showing lesions of the pancreas from subjects who have died of diabetic troubles (*La France Médicale*, 1877, No. 92, p. 732). He remarked that saccharine diabetes is, at least in some cases, accompanied by grave alteration of the pancreas. This form of diabetes is distinguished by a relatively abrupt beginning, by wasting, polydipsia, polyphagia, and peculiar characteristics of the alvine dejections, similar to what is seen in animals in which the pancreas has been removed or destroyed; for they, as is known, rapidly emaciate, become voracious, and die at an early period. He therefore believes there is a causal relation between grave changes in the pancreas and diabetes mellitus. The prognosis in these cases is unfavorable, and the treatment consists in avoiding diet which must be digested by the pancreatic fluid.

J. B. R.

ADMINISTRATION OF SALICYLIC ACID.—Dr. Guéneau de Mussy recommends the administration of salicylic acid by dissolving it in a syrup of gum by the aid of ten times its weight of brandy, and adding to it a little lemon-juice.—*Medical News*.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 2, 1878.

EDITORIAL.

CO-EDUCATION OF THE SEXES.

IN the report of the Board of Regents of the University of Wisconsin for 1877 we find some statements which bear so directly upon the interminable discussion as to the relative capacity of the sexes for mental labor, that we deem them worthy of passing notice. One of the rules of this university, where the experiment of co-education has now been carried on for some years, requires a number of gentlemen not immediately connected with the institution to be present at the annual examinations, and to make a report thereupon to the Regents. In pursuance of this duty, their report, after alluding to the general facilities for instruction, the apparatus employed in the several departments, etc., expresses the following very important conclusions. The young women sustained the tests of examination at least as creditably as the young men, and excelled in the precision and promptitude with which they responded to questions. The Board of Visitors were, however, deeply impressed with the appearance of ill health which most of the girls presented, and it did not seem to them probable that by mere coincidence so many young women should be congregated together offering this peculiarity. The hygienic condition of the university being excellent, they were compelled to look elsewhere for the cause, and believe that they have found it in the fact that the curriculum, requiring both classes of students to be subjected to the same systematic training, makes no allowance for those periods at which women require more or less complete physiological rest. They allude to overwork as a cause of anæmia, and add, "It

is this very condition of bloodlessness which is so noticeable in the women of the university at this time: the sallow features, the pearly whiteness of the eye, the lack of color, the want of physical development in the majority, and some absolute expression of anæmia in very many, all indicate that demands are made upon them which they cannot meet."

The president of the university, in a tone of ill-concealed wrath, after thanking the Board of Visitors for not allowing their critical acumen to suffer by disuse, regretting that they have reopened a controversy which he considered closed, and remarking that "to be pushed back into the water when we have just reached shore, is trying,"—an undoubted truism,—attempts to refute their assertions.

He says, "The faculty pronounce earnestly and unanimously in favor of the maintenance of the present method."

It may not unfairly be remarked that there are but few instances in which faculties have not "earnestly and unanimously" decided against any change which lessened their prestige and diminished their classes, even when the opportunities for observing the error of their ways have been greater than in the present instance. The opinion of the Board of Visitors, *ceteris paribus*, is much more likely to be impartial and unprejudiced.

"The applications for leave of absence on account of ill health have been in greater proportion among the young men than among the young women." This may be so obviously accounted for by the modesty which would naturally prevent many of the latter from detailing their ailments to a male instructor, and particularly by the unscrupulous mendacity which the average male student evinces whenever there is to be a game of base-ball, a boat-race, or a county fair, within walking distance, that it cannot be considered a cogent argument.

The Regents, in commenting upon these

counter-reports, remark that it is not claimed that the problem of co-education has been finally determined in its relation to capacity for mental culture, and still less in its relation to the personal association of the sexes in our universities, but that, however that may be, no doubt ought to obtain as to the duty of the University of Wisconsin to maintain that higher standard of instruction by which alone it can claim an honest title to its proper rank and name. They add, "And if, unfortunately, there are students, or classes of students, unfitted by nature or preparatory training for that extent of progress and intellectual development necessary to entitle them to the honors and rewards of university education, obviously their place is elsewhere."

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, NOVEMBER 8, 1877.

The PRESIDENT, DR. H. LENOX HODGE, in the chair.

(Continued from page 188.)

Chronic hepatitis with enlargement. Presented by Dr. JOHN GUITÉRAS.

GEORGE W., æt. 43, German, farmer, resident of Manayunk, contracted a diarrhœa during the war, which has always shown some tendency to return. Has had malaria; very probably has had syphilis; otherwise has been a very healthy man. No family history of cancer or phthisis. Admitted to the Philadelphia Hospital on September 2, 1877, with well-marked jaundice. He was somewhat emaciated; the skin was very yellow, showing about the face and neck a good deal of redness. He also presented the symptoms of itching, dark-colored urine, feeling of languor and sleepiness, and a small, slow, and feeble pulse. He was up and about.

His skin has been of the same color, with slight changes, since the beginning of February of this year. He never had jaundice before, and gives no history of biliary colic. The jaundice came on gradually, preceded by several days of diarrhœa, but apparently no gastro-duodenal symptoms. Since the existence of the jaundice his abdominal symptoms may be summed up as follows: nausea, sometimes with vomiting; flatulence, pyrosis, and, most constant of all, a sense of fulness about the epigastrium. These symptoms were

relieved at intervals by diarrhœa setting in. The stools have been at times clay-colored, at times normal. Dr. Musser's notes were carefully taken throughout the patient's illness. They show no change in the condition of the patient except slight changes of color, and aggravation or amelioration of gastro-intestinal symptoms. The diarrhœa became more constant. Some swelling of the feet was noticed at times. At times also he complained of dimness and yellow vision. The abdomen was generally distended, but no ascites could be detected. During the month of September his treatment consisted of iodide of potassium and bichloride of mercury, alternating with ipecac and bicarbonate of sodium.

October 2, there had been no improvement. He was ordered muriate of ammonia gr. xv every three hours, and cloths saturated in a solution of the same were applied over the liver. At this time the area of deep hepatic dullness extended from the fourth interspace to two inches below the margin of the thorax in the line of the nipple. There was no pain or tenderness. The margin of the liver felt smooth and resisting.

This treatment gave some relief; it certainly cleared up the skin considerably, and reduced slightly the size of the organ.

On the 10th the jaundice returned, and he was ordered jaborandi. He got an overdose of the drug, and its action was followed by much prostration. Yet there was no tendency to progressive wasting and prostration until the 15th, when he began to suffer with uncontrollable hiccough. The treatment was changed to nitromuriatic acid, strychnia, and pepsin. From the 15th to the 25th, every form of treatment was used to relieve the hiccough. The interrupted current, applied to the neck and diaphragmatic region, gave some relief. Finally, the oil of cajeput seemed to arrest the hiccough. The hiccough, the prostration, and the temperature made the diagnosis of diaphragmatic pleurisy a question of great interest.

On the 27th I noted slight pleural friction-sounds at the right base. On the 28th the proper significance was given to these sounds. My note of that day reads as follows: No pain or nausea; slight diarrhœa; pulse weak and small; tongue red and angry-looking; impaired resonance at right base posteriorly, commencing at the angle of the scapula; flatness extends from tenth interspace to the margin of the ribs; there is no alteration in the shape or movements of the chest; inspiratory sound at the right base posteriorly is slightly interrupted, feeble, and terminates with fine crackling râles. The same râles are heard at the left base, and at both places almost disappear after deep respirations.

He emaciated rapidly; the diarrhœa became uncontrollable and accompanied with much tenesmus, aggravated by hemorrhoids. These symptoms were relieved by injections

of nitrate of silver into the bowel. He fell into a semi-typhoid state, with slight wandering delirium, from which he could always be aroused, and finally died of exhaustion, November 4.

The urine contained no albumen or sugar. It was normal in amount, except when the diarrhoea was excessive. It always was high-colored, and responded to the tests for biliary salts and pigment. Leucine and tyrosine were found after slightly concentrating the urine.

Post-mortem.—The skin is decidedly yellow, as are also the internal organs. There is a slight effusion, also stained, in the peritoneal cavity. The liver weighs five pounds three ounces. Its peritoneal covering is smooth and shining, except in some places about the edges, where there are small patches of opacity, evidently due to distentions of the organ. The liver overlaps the stomach considerably, and extends to within one and a half inches of the umbilicus. The shape of the organ is not changed. The organ presents a deep-green color. The acini are not well defined; the central hepatic veins appear darker than the surrounding tissue, but the contrast is by no means distinct. The tissue of the liver is very firm, presenting slight cirrhotic contraction in some spots about the anterior edge. The section is, nevertheless, perfectly smooth. Iodine does not reveal any amyloid degeneration. The gall-bladder contains a small amount of inspissated black bile. No obstruction can be found, except at the duodenal end, in the biliary passages, though dissected some distance into the liver-substance. The swelling of the duodenal mucous membrane and some mucus present might have given rise to obstruction; but there was no dilatation of the tubes, and they were empty. There are no syphilitic cicatrices. Under the capsule one very small piece of calcareous matter was found, not imbedded in cicatricial tissue. The mucous membrane of the duodenum is congested, thickened, and covered with an abundant mucous secretion. The mucous membrane of the remaining portion of the small intestines is also congested. The large intestines show considerable thickening of the mucous membrane, are grayish in hue, and of a uniformly fungoid velvety appearance. The kidneys are healthy; the spleen enlarged and congested. All the tissues are stained with bile. The heart is healthy, save slight thickening of the aortic semilunar valves. The lungs are healthy, with the exception of hypostatic congestion of the lower lobes posteriorly. The pleuræ are not adherent.

Remarks.—One of the most interesting features of the case is the temperature. It was noted from October 21 to the time of death, as follows:

Oct. 21.—M. Temp. 100°, P. 92, R. 17. E., Temp. 98°, P. 76, R. 17.

Oct. 22.—M., Temp. 98°, P. 80. E., Temp. 103°, P. 92.
Oct. 23.—M., Temp. 95 2-5°, P. 80, R. 20. E., Temp. 100°, P. 76.
Oct. 24.—M., Temp. 101 2-5°, P. 112, R. 23. E., Temp. 96°, P. 72.
Oct. 25.—M., Temp. 93°, P. 86, R. 17. E., Temp. 101°, P. 96.
Oct. 26.—M., Temp. 95°, P. 76, R. 19. E., Temp. 94 3-5°, P. 21, R. 18.
Oct. 27.—M., Temp. 103°, P. 116, R. 30. E., Temp. 98°, P. 92, R. 18.
Oct. 28.—M., Temp. 95 1-5°, P. 84, R. 15. E., Temp. 100°, P. 96, R. 18.
Oct. 29.—M., Temp. 97°, P. 92, R. 15. E., Temp. 98 2-5°, P. 96, R. 14.
Oct. 30.—M., Temp. 97°, P. 84, R. 14. E., Temp. 98°, P. 88, R. 16.
Oct. 31.—M., Temp. 94 2-5°, P. 72, R. 14. E., Temp. 96°, P. 68, R. 17.
Nov. 1.—M., Temp. 99°, P. 92, R. 21. E., Temp. 93°, P. 72, R. 18.
Nov. 2.—M., Temp. 95°, P. 92, R. 21. E., Temp. 96 3-5°, P. 96, R. 22.
Nov. 3.—M., Temp. 91 2-5°, P. 76, R. 11. E., Temp. 91°.

With such a temperature, and with a rapid emaciation, the exclusion of suppuration became a question of interest, the more so since the hiccup and physical signs at right base pointed to diaphragmatic pleurisy,—a form of pleurisy that terminates not unfrequently in suppuration. But the temperature-sheet shows a regularity that is not characteristic of suppurative fevers. I find that every third temperature noted is pretty regularly a high one, the fall being very great in the two intervening temperatures; so that the rise and fall do not present the usual relations to the morning and evening hours. The very chronic nature of the trouble, the absence of a cause, together with the above temperature, the persistent jaundice, and passive nature of the enlargement, excluded abscess. I excluded diaphragmatic pleurisy because there was no dyspnoea, pain, or anxiety, and because the localized spots of tenderness near the xiphoid cartilage, and at the root of the neck along the course of the phrenic nerve, were absent. The râles heard at base of right lung were thought to be due to want of expansion of the lung from pressure. The hiccup might have been due to the same cause, or to central disturbance from toxæmia. The curious range of temperature may be due to an intermittent absorption of effete products from the liver, or an intermittent arrest of the oxygenating processes going on in the liver, an arrest that must influence the general temperature if we remember that in health the temperature of the organ reaches 106°. It is to be regretted that the amount of urea excreted was not observed.

I may observe that I do not believe the electric current passed along the phrenic nerve. I noticed that the diaphragm continued its normal movements, and only the muscles of the abdominal and thoracic walls were seen to contract under the influence of electricity. I believe that the shock produced by the current gave the temporary relief, and suspect that a strong current applied to the thighs would have had the same effect.

The diagnosis during life was chronic catarrhal jaundice resulting in hyperplasia of

the connective tissue. It is very rare to find such marked jaundice in the early stage of cirrhosis, or stage of enlargement, and it is probable that the catarrh of the tubes was the primary lesion. I thought during life, and think so yet, that this liver might be likened to the kidney in the second stage of Bright's disease, so far as the anatomical differences between the two glands will allow.

The jaundice and absence of involvement of other organs excluded the amyloid liver; and the passive, smooth enlargement excluded cancer. The empty and undilated tubes, the almost empty gall-bladder, show that there was no obstruction at the duodenal orifice or in the larger tubes.

Dr. TYSON said this was the first time he had ever known human urine to respond to Pettenkofer's test for bile as ordinarily directed to be applied. From the directions usually given for using this test in the books, we are led to believe that the elements need but to be added to urine containing bile to have a prompt reaction. But this is not the case. Some years ago, in making a number of experiments with this test he was only able to obtain the characteristic reactions by adding ox-bile to human urine. The test is for biliary acids, and these should first be extracted, redissolved, and tested for. Dr. T. recalled, however, a case of strangulated hernia, which was operated upon, and after recovery from the operation it was thought desirable to ascertain if the fecal matter came from the upper part of the small intestines. It was thought that if it did it would contain bile. Pettenkofer's test was employed, and responded promptly and satisfactorily.

Dr. GUITÉRAS replied that he himself was very much surprised at the result obtained in this case by the employment of Pettenkofer's test, since he had never previously, in using this test, obtained satisfactory results. There was, however, no doubt as to the complete and convincing reaction of the test in the present case; the purple band between the acid and urine and sugar was quite distinct.

Dr. LONGSTRETH said he wished to call attention to the form of cirrhosis occurring from a malarial cause; in such cases the indurative form prevailed, and the organ was usually not much reduced in size, but simply firmer and harder than normal. The color of the specimen before the Society was much darker than that found in livers of patients jaundiced from a catarrhal inflammation of the bile-ducts. This increased intensity of coloration would point to the presence in the liver-tissue as well as the blood of a pigment such as is found in chronic malarial poisoning. It could, of course, be accounted for by the presence of bile-pigment solely. He has a specimen in the museum of the Pennsylvania Hospital removed from a patient suffering from chronic malarial poisoning, with jaundice, which presents conditions similar

to the present specimen. In the specimen referred to, the three forms or degrees of cirrhosis of the liver were present, and were well illustrated by the organ, viz., simple induration, lobulated contraction, and also a few hob-nail masses. The liver was slate-colored, and there were seen also numerous black points; the spleen was diseased, and the blood contained pigment-matter.

The pathology of cirrhosis of the liver from simple catarrhal inflammation of the bile-ducts is a doubtful matter. May not the cirrhosis of the organ presented to-night be due to malarial poisoning?

Dr. TYSON thought this liver not unlike a pigmented malarial organ, and that pigment-particles would probably be found in the cells if examined microscopically.

Dr. GUITÉRAS said that he had excluded malaria because there was no history of malarial cachexia, and the patient had had no malaria since the war. The spleen was perfectly healthy, and he did not think that the deep-green color of the organ, somewhat changed since the autopsy, pointed in that direction. He suspected the microscope might not be of use in determining this question, because in cases of intense jaundice, granules of biliary coloring-matter were found in the liver-cells. He thought the slate color was not present in the specimen. Dr. G., in answer to Dr. Allen, who asked if any of the members had seen enlargement of the veins during cirrhosis of the liver, and especially those surrounding the umbilicus, replied that he attached much importance to this symptom, viz., enlargement of the veins, as an evidence of portal obstruction, especially in cirrhosis, where he had almost always found it in advanced cases. The enlargement of the veins around the umbilicus he had never noticed, though early writers speak of them as forming a distinct areola. Dr. G. replied to Dr. O'Hara that he did not feel justified in ascribing the relief of the hiccup to the use of oil of cajuput. Ten drops were given every two hours. He expected the action of this drug to be rapid, and yet the hiccup had not stop until eight or ten doses were given.

Report of the Committee on Morbid Growths.—"The liver presented by Dr. Guitéras, upon microscopic examination, shows the cells, situated mainly at the periphery of many of the lobules, to be colored greenish yellow, increased in size, and slightly more granular than normal; also at the periphery of a few lobules the cells are seen to be enlarged and infiltrated with oil-globules. There are not seen any pigment granules, such as are found in melanotic disease due to malarial poisoning. The fibrillar connective tissue, especially that found in the interlobular spaces, is decidedly increased, and infiltrated with numerous embryonic cells. The pathological change is one of indurated hepatitis of the first stage,

or passing into the second, with a staining of the cells by biliary coloring-matter.

"November 22, 1877."

REVIEWS AND BOOK NOTICES.

LECTURES ON CLINICAL MEDICINE, DELIVERED IN THE ROYAL AND WESTERN INFIRMARIES OF GLASGOW. By DR. MCCALL ANDERSON, Professor of Clinical Medicine in the University of Glasgow. With Illustrations. 8vo, pp. 264. Macmillan & Co., London, 1877.

Another book upon practical medicine! The first impulse on receiving this work was to accord it the reception usually vouchsafed to the "eleventh child" or the "last straw," but Dr. McCall Anderson's well-known reputation as an industrious and energetic worker secured him against any hasty verdict, and an examination of the volume satisfied us that its addition to those already existing was justified. The subjects discussed are of so much importance and the lectures are of such a practical character that they are well worth reading by any physician or student engaged in the study of medicine.

They include—I. an Introductory "on the importance and method of conveying clinical instruction; and illustrations of recent progress in the field of practical medicine." It will interest the many teachers of clinical medicine in this country to know the method pursued by Prof. Anderson at Glasgow. Having a large class, he meets "the members of it formally three times a week,—namely, on Mondays, Wednesdays, and Fridays,—one of these being devoted to the exposition of selected cases in the wards, and the other two to clinical lectures in the class-room on some of the cases previously seen in the wards, in accordance with the University ordinances." Again, the class is divided on Tuesdays, Thursdays, and Saturdays into three sections,—one section accompanying the professor in his visit to the patients, while the others are instructed in rotation by the medical tutors acting under him. He remarks with regard to the latter, that this part of the work of bedside instruction could be carried on with much better effect were the medical tutors qualified men of some eminence, and not senior students only.

Lecture II. is on "Cases Illustrative of Pain as a Symptom of Disease;" Lecture III., on "Cases Illustrative of Gastric and Cerebral Vomiting;" Lecture IV., on "A Case of Hysteria;" Lecture V., "Cases Illustrative of Spinal Irritation;" Lecture VI., "The Phenomena of Embolism;" Lecture VII., "A Case of Supposed Disease of the Pons Varolii;" Lectures VIII. and IX., "The Treatment of Aneurism of the Arch of the Aorta by Means of Galvano-Puncture;" Lec-

ture X., "Aneurism of the Abdominal Aorta;" Lecture XI., "Tubercular Peritonitis;" Lecture XII., "Acute Phthisis (Galloping Consumption);" Lecture XIII., "Cases Illustrative of Mediastinal Tumors;" Lecture XIV., "A Case Illustrative of the Cirrhotic Form of Bright's Disease;" Lecture XV., "Multiple Fatty Tumors Complicated with Aneurism;" Lecture XVI., "Lupus Verrucosus—Ephidrosis Cruenta—Elephantiasis Arabum;" Lecture XVII., "Are the Vegetable Parasitic Affections of the Skin due to One or Several Parasites?"

The lectures are clearly written, plainly printed, and it is a pleasure to read them.

THE SCIENCE AND ART OF SURGERY. By JOHN ERIC ERICHSEN, F.R.S., F.R.C.S. Revised by the author from the seventh enlarged English edition. Philadelphia, H. C. Lea, 1878.

The value of Mr. Erichsen's Surgery has so long been everywhere recognized by the profession, that the announcement of the new edition is pretty much all that is left to the reviewer. The present volumes appear to be well abreast of the times, and to maintain the established fame of the work.

GLEANINGS FROM EXCHANGES.

BROWN-SÉQUARD'S TREATMENT OF EPILEPSY.—Dr. Jas. B. Ayer reports (*British Medical and Surgical Journal*) twelve cases treated by the following prescription for two years:

R Sodii bromidi, potassii bromidi, ammonii bromidi, aa ʒiij; potassii iodidi, ammonii iodidi, aa ʒiss; ammoniæ sesquicarb., ʒi; tinct. calumbæ, fʒiss; aquæ destillat. ad fʒviii. M.

Full dose, one and a half drachms before each meal, and three drachms at bedtime.

Results.—In four cases very satisfactory: reduced to a single attack in forty-six months, thirty-one months, twenty-two months, and sixteen months, respectively. In five cases number and severity of attacks both diminished. In one case severity diminished, number unchanged. In two cases no change in number or severity. In eleven cases there has been marked improvement in general health and mental condition. In one case there has been a slight improvement.

PARACENTESIS THORACIS.—Dr. Henry Barnes (*British Medical Journal*, December 1, 1877) has practised this operation in eleven cases,—three of simple acute pleurisy, two of acute pleurisy occurring as a complication of enteric fever, three of subacute or chronic pleurisy, and three of empyema.

In two of the acute cases, sixty-six and fifty-seven ounces of fluid having been respectively removed, convalescence was at once established. The third case was remarkable for the pain being upon the opposite side to the pleu-

riety. Paracentesis was performed once, with great relief, but protracted treatment was required before recovery was established.

In the two cases of acute pleurisy occurring as a complication of enteric fever, paracentesis was performed three times in each case. The first was a young man aged 19, and the pleurisy came on during a very severe and protracted attack of enteric fever. The effusion was on the right side, and was of a sero-fibrinous character. The amount of fluid removed was on the first occasion forty-six ounces, on the second fifty-six ounces, and on the third one hundred and twenty-three ounces. The urgent dyspnoea was greatly relieved by the operation, and the patient finally recovered. In the second case the patient was a game-keeper aged 43, and the fever was of a severe type. The chest-symptoms first appeared on the twenty-fourth day of the disease, and the effusion was on the left side. The fluid removed at the first operation measured fifty ounces, at the second forty-seven ounces, and at the third ninety ounces, and was always of a sero-fibrinous character. Recovery was complete.

In all of the chronic cases the result was satisfactory. In the first case of empyema paracentesis was employed twice, and the patient slowly convalesced. In the second case recovery finally followed the use of the drainage-tube with syringing with weak carbolic acid twice daily. In the last case paracentesis acted most favorably.

Dr. Barnes practises the operation in a semi-recumbent position and at the site recommended by Dr. Bowditch, prefers decidedly a capillary trocar and the bottle aspirating apparatus, obtains as much fluid as possible unless pain or other unfavorable symptom appears, and as after-treatment uses iodine externally, iodide and acetate of potassium in infusion of digitalis or a simple bitter infusion internally.

In the same number of the *British Medical Journal* is concluded a lecture by Wilson Fox on paracentesis, with tables as to mortality, which may be consulted with great advantage.

Drs. Thos. Parkes and Wm. Parker also have an article on pleuritic effusions in childhood, in which they commend the diagnostic use of the hypodermic needles followed by aspiration, entirely irrespective of pyrexia, if the fluid does not disappear in three weeks. Diuretics they have never seen do good in serous effusion into the pleura in childhood. Of blisters they are chary, on account of their tendency to produce ulceration. In empyema, so long as pus does not get fetid, repeated aspiration should be employed; when fetor is perceived, the drainage-tube should be at once resorted to, with a double opening in the chest-wall.

INTERNAL URETHROTOMY (*The Lancet*, November 24, 1877).—Mr. Lund has recently

performed his operation of internal urethrotomy in two cases of stricture at the University College Hospital. The steps of the operation are as follows. A filiform whalebone bougie is first of all insinuated through the contracted portion of the urethra, and pushed on till it reaches the bladder, and then a fine silver catheter, about equal to No. 3.5, French scale, is slid over the bougie into the bladder. The bougie is then withdrawn, and, if the instrument be in proper position, urine will escape. A steel rod is then screwed into the silver catheter, and a series of sliding tubes, on Mr. Wakley's system, is inserted, until the stricture is dilated up to No. 3 or No. 4 English. After this, Teevan's modification of Maisonneuve's urethrotome is passed, and the urethra is cut from before backwards along the roof of the strictured portion. The urethrotome is then removed, and a solid metal *bougie à ventre*, equal to No. 17 English in its thickest part, is introduced, in order to stretch or tear any fibres of the contractile tissue which may have escaped the knife. The operation may therefore be described as a combination of simple dilatation, internal section, and forcible dilatation, and will doubtless take a place among the best modes of treating small, hard, and obstinate strictures of the urethra. But, on the other hand, the success that has of late attended the various attempts to facilitate and simplify the performance of internal urethrotomy should not be allowed to obscure the important truth that a very large number of urethral strictures are best and most safely treated by means of patient and systematic simple dilatation.

LARYNGO-TRACHEOTOMY FOR THE REMOVAL OF FOREIGN BODIES (*The Lancet*, November 24, 1877).—Mr. West details a case in which he performed laryngo-tracheotomy for the removal of a coin, and gives the following directions for performing that operation, with his reasons for preferring it: the trachea above the thyroid isthmus and the cricoid cartilage are comparatively superficial; there is less danger of hemorrhage than when the trachea is opened below the thyroid, and the situation at which the opening is made is convenient for the exploration both of the trachea and the larynx.

It may be well to state that probangs should always be passed into and down the œsophagus before the windpipe is opened in any part of its course, for similar symptoms may proceed from extraneous substances in that tube as if they were lodged in the trachea or larynx, and mistakes have often arisen in consequence of this precaution not having been taken.

When the trachea is opened, if the foreign body is not driven out from the rima or through the wound by the air, as it was in my first tracheotomy case,—a child who was choked with a plum-stone,—attempts must be made to reach it with a probe or with a pair

of curved forceps; and if by these means the substance cannot be extracted, the tracheal wound must be kept open by the introduction of a canula, or a portion of the rings of the trachea may be removed by the knife. The canula must be taken out from time to time, for the purpose of being cleansed, and must not be retained too long, or it may by its pressure lead to dangerous ulceration of the trachea and of the surrounding parts.

As showing how necessary it is to keep exactly in the median line, Guersant mentions that one of the house-surgeons of the Children's Hospital, Paris, in opening the trachea, by accident injured the arteria innominata; and Desault quotes the case of a medical student who, in performing tracheotomy on a fellow-student asphyxiated by drowning, opened the carotid artery. Such accidents could only occur when the incision is prolonged much too far downwards and is allowed to deviate from the median line. Another result of too free cutting may be the opening of the œsophagus, as in a case mentioned by Sédillot: this may, however, in general be avoided by using a blunt-pointed bistoury for extending the wound first made in the trachea.

In the performance of tracheotomy I object to any of the special instruments which have been recommended for the purpose. Trocars—even the instrument introduced by Sir H. Thompson—are unsafe unless in very competent and steady hands; and there is nothing so safe as a short straight double-edged scalpel for making a clean section of the parts in the median line. Secure any vessels that may bleed during the operation as soon as they are divided, until the rings of the trachea are reached at a point just above the isthmus of the thyroid, and then, having cleared the front of the trachea and held it *in situ* with the finger and thumb or with a hook, plunge in your scalpel in its centre and cut from below upwards through the upper rings of that tube, and, if necessary or desirable, through the cricoid cartilage as well.

ABSCCESS OF THE LUNG (*The Boston Medical and Surgical Journal*, November 22, 1877).—At a meeting of the Berlin Medical Society, Leyden calls attention to the rarity of this condition, and to the liability of its being confounded with pulmonary gangrene and subacute tuberculosis of the lungs (cheesy pneumonia). Traube has referred to the diagnostic importance of an examination of the sputum, and states that in it shreds of lung-tissue might be recognized with the naked eye, and that elastic fibres, black pigment, and occasional rust-colored crystals could be found. In gangrene, however, the shreds of pulmonary tissue are readily crushed, and elastic tissue is not present. In pulmonary tuberculosis there are no shreds to be seen. It was Traube's view that the abscess developed from a pneumonia and was preceded by an

extensive destruction of tissue. Leyden admits that the pulmonary abscess and gangrene are not sharply defined, but run into each other, and yet the recognition of the simple, bland suppuration is of the greatest importance. The clinical course of the abscess resembles rather that of subacute cheesy pneumonia than that of gangrene. He considers that there are three varieties of pulmonary abscess:

1. The abscess perforating the air-passages from without.

2. The true pulmonary abscess, which includes those due to pneumonia, the embolic and metastatic forms, and those resulting from injury to the lung, as in the penetration of foreign bodies.

3. The chronic pulmonary abscess, such as forms in chronic pneumonia, but distinct from the tuberculous cavity.

The true pulmonary abscess begins with symptoms of an acute pneumonia, which does not terminate critically on the seventh or ninth day, but the fever increases, the expectoration is retained, till in the course of three weeks an abundant purulent sputum appears, with alleviation of all the symptoms. This sputum is of the greatest diagnostic importance. It is very profuse, foamy, purulent, and liquid, of a stale, indifferent odor, although the latter may temporarily be sweet and penetrating. Shreds of lung-tissue are evident to the naked eye, as well as others to be seen only with the microscope. They are imbedded in thick yellow pus, are of a grayish-black or yellow-ochre color, and vary extremely in size. These particles contain abundant elastic tissue, at times bits of large vessels, a moderate quantity of black pigment, crystals of fat (small, pedicellate, globular forms), delicate hæmatoidine (bilirubine) crystals of an ochre-yellow or rust color. The latter crystals were always observed, though they might be few or many, and were in the form of rhombic plates or of bundles of needles. Coarse, granular micrococci are present, either motionless or moving slowly, and differ widely from the active, rod-like bacteria of pulmonary gangrene. They are not acted upon by iodine, and thus differ from the leptothrix forms in gangrene. Pus-corpuscles and pulmonary epithelium are also found.

In the chronic pulmonary abscess the sputa are purulent or muco-purulent in character. They contain elastic fibres, which are evident on microscopical examination; also occasional, small, dense, slate-colored portions of lung-tissue of a fibrous appearance. Plates of cholesterine also are often seen; likewise fatty and mucous corpuscles, the latter often containing granules of fat.

THE LYMPHATIC THEORY OF SYPHILITIC INFECTION (*The New York Medical Journal*, December, 1877).—Dr. William A. Hardaway, in an able paper on this subject, attempts to prove the following propositions: 1. That the

lymphatic vessels are the only absorbents of the syphilitic virus. 2. That the syphilitic virus is carried by the lymphatic vessels to the ganglia nearest the seat of primary lesion, where it undergoes a period of localization corresponding to the stage of secondary incubation; and that, therefore, for a certain variable space of time, the blood is not contaminated at all, and, if inoculated upon a person free from syphilis, would not prove a source of infection. He then quotes a number of writers on physiology and pathology to show that this view is in accord with the accepted theories of absorption, and says, "It is to be presumed that the application of the specific irritant of syphilis to the tissues produces the usual phenomena of inflammation with the exit of numerous white blood-corpuscles from the vessels. From our physiological and pathological knowledge of these bodies it is a just inference that the syphilitic virus becomes incorporated in their substance, and that sooner or later they make their way into the lymphatic vessels, and along them into the neighboring ganglia."

He considers induration of the syphilitic ulcer to be a purely local affair, and to consist of nothing more than a greater or less profuse proliferation of cellular elements, and, in some cases, of a true new formation of connective tissue from the infiltrated cells. He refers to the clinical history of a case of early syphilis as affording positive evidence of the manner in which the virus enters the blood: "We find that, exactly where the specific irritant comes into contact with the tissue, certain characteristic changes occur, which sometimes can also be detected in the lymphatic vessels leading to the neighboring glands, and invariably in the glands themselves, and again in the next glands, and so on, slowly and gradually, until more or less marked constitutional symptoms supervene, and we are made aware that the syphilitic poison is then being poured into the blood. If the virus were immediately poured into the blood, we should expect to see evidences of systemic disturbance at once."

In reference to the hereditary transmission of syphilis, he asserts that "the unanimous concurrence of all who have made hereditary syphilis a study, in the belief that if a mother contract syphilis in the latter part of her pregnancy the offspring will be born without taint, is a strong argument against the theory of immediate blood-absorption. The only explanation that this circumstance admits lies in the fact that the child is born before the virus has passed out of the lymphatic system into the blood; for, if its introduction into the blood were immediate, serious results would ensue to the child at whatever period of utero-gestation the disease had been acquired by the mother." In reference to the relations of the chancre and chancroid, he writes, "It would appear that the secretions of hard

chancres and of secondary lesions will produce,—*a*, hard sores, followed by general infection; *b*, soft sores, not followed by general infection." Whether the chancre or the chancroid follows the application of the syphilitic virus seems to depend upon three conditions: 1, the natural tendency to pus-formation in persons free from syphilis; 2, the well-known aptitude to pus-formation in persons laboring under syphilis; 3, the almost certainty, when the purulent secretions of irritated syphilitic lesions are used, of causing soft sores, although in some cases, where irritated secretions are employed, certain of the sores thus produced may be soft and others in the same person hard, or first soft and later becoming indurated (mixed chancre). As a logical result of his views on this subject, he recommends an early extirpation of the enlarged lymphatics contiguous to the initial lesion, as a means of averting the constitutional disease.

THE MECHANISM AND TREATMENT OF PULMONARY COMPLICATIONS OF ACUTE CARDIAC DISEASE (*The Medical Record*, November 24, 1877).—Dr. Beverly Robinson, in an extremely able paper on the above subject, comes to the following conclusions. 1. Pulmonary disorders are frequently the immediate and almost necessary consequence of disordered heart-action of acute type. 2. These pulmonary complications should not be considered as being frequently of inflammatory nature, but rather as being manifestly produced by mechanical obstruction. 3. In our effort to combat effectually these secondary affections, which are often rapidly dangerous, we should make use of a remedy which will strengthen and regularize heart-action while lowering gradually and safely pulse, respiration, and temperature. 4. Quinine, in small or large doses, does not produce these results, and should, therefore, give place to a remedy which does, viz., digitalis. 5. Moderately high temperatures are not necessarily very pernicious, or of great moment, in so far as the indications of treatment are concerned. 6. Our therapeutic treatment of pulmonary complications consequent upon acute cardiac disease (endocarditis, pericarditis, myocarditis) must be guided rather by the general symptoms of disease in our patient than by one single morbid phenomenon, viz., elevation of body temperature.

RELATION BETWEEN URINARY SECRETION AND IRRITATION OF SPERMATIC PLEXUSES (*The Medical Record*, November 24, 1877).—M. Nepvue read a paper at the Havre meeting of the French Association for the Advancement of Sciences, in which he gave the results of his continued researches on the variations which the urinary secretion may undergo as a consequence of various traumas. He has arrived at the conclusion that the testis may in certain abnormal conditions (such, for example, as follow injections of iodine into the tunica vaginalis, and in neu-

rosis of the testis) be the starting-point of reflex actions affecting the urinary secretion. This reflex action, especially when caused by injections of iodine into the tunica vaginalis, is exhibited by a series of oscillations in the secretion, the first effect being oliguria, which lasts for some days, and is followed by polyuria, succeeded by a return to the normal condition. This result of the injection of iodized solutions into the tunica vaginalis may be regarded, M. Nepvue thinks, as an experiment which establishes the reality of physiological connection between the renal secretion and the irritation affecting the spermatic plexuses.

THE GLYCOGENIC FUNCTION OF THE LIVER (*The New York Medical Journal*, January, 1878).—Dr. W. H. Ford, in an article upon the influence of temperature in the transformations of glycogen and hepatic sugar, sums up our present knowledge of the glycogenic functions of the liver, as follows:

1. The induction of dextrinoid and amylaceous matter, and of sugar, from the digestive tract effects a prompt increase of glycogen in the liver-cells. Under these circumstances a freshly-made decoction of the liver is opalescent. Even in fasting carnivora glycogen is found in the healthy liver, and must therefore be formed from the elements of the blood. It is highly probable that glycogen originates in a decomposition of fibrinous or other proteioid matter, principally brought to the liver by the vena portæ, but in part, perhaps, also by the hepatic artery.

2. Glycogen is more nearly allied to dextrine than to starch, and is converted into hepatic sugar by all agencies capable of converting dextrine into glucose, with a facility far greater than is observable for dextrine of vegetable origin. In this facile convertibility glycogen is like hepatic sugar itself.

3. A certain zymogenous agency resident in the liver or hepatic blood must be invoked as the cause of this change of glycogen into hepatic sugar,—a transformation which takes place with great ease at the temperature normal to the liver, but with far less readiness at lower temperatures. This conversion is normally in constant progress, so that the blood escaping by the hepatic veins always contains glucose in small but very constant quantity. It is *probable* that the saccharification of glycogen does not occur in the cells of the liver, but only begins either in the cellular interspaces or in the radicles of the hepatic veins. Even systemic blood is able to saccharify glycogen at the temperature of the body.

4. The glucose thus constantly formed is rapidly borne away by the blood towards the lungs. If the animal be in digestion its quantity is considerably greater than usual, and much of it escapes through the left side of the heart into the general circulation. This seems to be the case habitually with herbivorous animals, which are more or less in digestion at all times; but in fasting carnivora, most of

the sugar is destroyed in the lungs, though a certain very small portion may be regarded as normally present in the systemic blood, having escaped the peculiar decompositive influences of the pneumo-cardiac circulation. It is here that glucose is chiefly destroyed, though it finally disappears in the blood-mass, perhaps in consequence of repeated transits through the lungs; at least it never appears normally in any of the secretions.

INJECTIONS OF CARBOLIC ACID IN HEMORRHOIDS (*Toledo Medical and Surgical Journal*, November, 1877).—Dr. J. H. Pooley reports three cases in which he has injected into swollen and inflamed hemorrhoids a strong solution of concentrated carbollic acid. About five or six drops were used, care being taken to insert the needle-point vertically and carry it well into the centre of the tumor. The immediate effect was a shrinking, hardening, and whitening of the tissues, with a feeling of numbness, but an almost instant relief from pain. In a few days the entire mass sloughed off, and at the end of a week or ten days recovery was complete. Dr. Pooley believes that the use of the weak acid instead of the concentrated would render the occurrence of embolism more possible, and suggests that the severe spreading inflammation which has been said to follow this plan of treatment might be due to the oblique insertion of the needle and the consequent conveyance of the acid into the areolar tissue around the tumor, rather than into the pile itself.

MISCELLANY.

HEADS AND HATS.—A scientific inquiry lately made by Dr. Delaunay among the hatters of Paris offers some curious results. Accepting it as true that the capacity of the cranium and development of the brain are proportional to the external volume of the head, also that the intelligence is proportional to the volume and weight of the brain, he shows, *inter alia*, that certain families develop like individuals,—that is, they have a period of growth, then a stationary period, then a period of decrease, previous to extinction. In families in the first period the head enlarges from generation to generation. The citizens who wrought the Revolution of 1789 had bigger heads than their fathers. On the other hand, in families that are nearing extinction the head grows smaller. The sons of the present ruling families in France have such small heads, according to the author, that they require hats specially made for them. Among certain families newly risen from the common people the head increases from generation to generation. The wide-brimmed hats—bolivars—worn by the Republicans from 1830 to 1848 were very capacious. The quarter in which are the largest heads in Paris

is that of the schools. The hatters of the Faubourg St. Germain say they only fit fine heads. The Polytechnicians have larger heads than the St. Cyrians, and the students of the normal school larger than those of St. Sulpice, etc. The members of the clergy present a peculiar feature in these statistics. "In general," says M. Delaunay, "men from thirty to forty years of age have a larger head than those from twenty to thirty. Not so with ecclesiastics, for their heads cease to grow at about twenty-five. The curés, bishops, archbishops, etc., have no larger heads than the students of the large seminaries." The foregoing appears in our contemporary *Public Opinion*.—*Medical Examiner*.

EXCISION OF THE LARYNX.—This formidable operation has been successfully performed in Glasgow by Dr. Foulis. Thyrotomy had previously been performed twice, and a recurrent growth removed. At length it was decided to remove the whole larynx. The patient consented, and the operation was done. The patient made a good recovery, and could dispense with artificial feeding in a fortnight. As soon as the wound contracted enough, a vulcanite tube was fitted in with a vibrating reed, which enables the patient to speak in a monotonous but loud voice.—*The Doctor*.

GURJON OIL IN GONORRHŒA.—M. Vidal has introduced into France the use of Gurjon oil. He finds it an excellent substitute for copaiba, and in a recent thesis M. Deval corroborates this by a number of cases observed in M. Vidal's own clinic, and some others in M. Mauriac's. The dose advised should not exceed one drachm in the twenty-four hours. This amount will keep the bowels freely open. It is mixed with gum and some infusion. Its action is more rapid than that of copaiba, and it does not taint the breath. It may be used locally in vaginitis, etc. It has not provoked any eruption. M. Vidal has also employed it in leprosy.—*The Doctor*.

DEATH-RATE IN VARIOUS CITIES IN EUROPE.—In a recent number of the *Gazette Médicale*, the following figures are published, extracted from the *Journal Officiel* for the years 1872-5. 1. Births.—There were 16.27 per 1000 inhabitants in France, 34.23 in Great Britain, 36.65 in Italy, 39.71 in Germany, 40 in Austro-Hungary, 47.20 in Russia. 2. Mortality.—There were 21.35 deaths per 1000 in Great Britain, 22.46 in France, 27.72 in Germany, 30.46 in Italy, 34 in Russia, 38.96 in Austro-Hungary. 3. Proportion of births to deaths.—By the two tables above, it seems that the excess of births over deaths per 1000 is 13.20 in Russia, 12.88 in Great Britain, 11.90 in Germany, 6.25 in Italy, 3.81 in France, and 1.04 in Austro-Hungary. Thus, though France occupies the second rank with respect to her slight mortality, she is last but one among the great powers as regards the excess of births over deaths.—*The Doctor*.

DUHRING'S ATLAS OF SKIN DISEASES.—The publishers of Dr. Duhring's "Atlas of Skin Diseases" announce that the lithographic plates for the edition of Part III. were completed when, upon a critical examination of the edition, some imperfections were noticed which demanded the suppression of the entire issue. A new edition of Part III. is now printing, and will be pressed through with as much rapidity as due regard for the perfection of the work will admit of.

NOTES AND QUERIES.

HOSPITAL STEWARDS, U. S. ARMY.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:—SIR,—In thanking you for your very generous editorial article upon our grievances in your issue of December 8 last, which I have just seen, permit me to correct one or two little points which might otherwise give the impression that we were attempting to create sympathy by mis-statements.

The hospital steward is outranked by the regimental non-commissioned staff-officers, not by "all" the regimental non-commissioned officers.

He holds his warrant from the *Secretary of War*, not "from the President."

When disabled or killed, the pension, at the same rate as any other enlisted man, is granted, *i.e.*, Soldier's Home, or a pittance.

The concluding two paragraphs of your article describe precisely what most of the stewards are asking for, and could not be improved on by any amount of writing; viz., that if Congress will not grant brevet commissioned rank to us, "a law may be enacted which shall assign a rank at least equal to that of the highest non-commissioned officer, a pay of fifty dollars a month, a pension for disability produced in the service, and finally open a possible passage, on proof of fitness by examination, up to the Medical Staff."

The "proposition," lately circulated throughout the service embracing all these points was purposely written in full detail to avoid the necessity of future "interpretations," and in asking for only the rank of the highest non-commissioned officer it was believed to be best so to limit it, because so unlikely that the economical Congresses of present times would grant commissioned rank even although well earned. The Signal Service, however, originally an offshoot from the Medical Staff of this army, and now receiving much assistance still in its weather reports from the Stewards,—has been granted one commissioned promotion annually from its ranks; our "proposition" asks modestly for one in three years.

If you will kindly insert these remarks, my dear Mr. Editor, you will confer a great favor on the corps.

* * *

Hospital Steward, U. S. Army.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM JANUARY 13, 1878, TO JANUARY 26, 1878.

KINSMAN, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Ordered before the Army Medical Board, New York City, for examination for promotion, and, on its completion, return to his proper station. S. O. 9, A. G. O., January 10, 1878.

CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to New York City, and report on arrival by letter to the Surgeon-General. S. O. 9, c. s., A. G. O.

BENTLEY, E., CAPTAIN AND ASSISTANT-SURGEON.—Ordered before the Army Medical Board, New York City, for examination for promotion, and on its completion return to his proper station. S. O. 9, c. s., A. G. O.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty in the Medical Director's office, S. O. 8, Department of the Gulf, January 14, 1878, and relieved and assigned to temporary duty at Little Rock Barracks, La., during absence of Assistant-Surgeon Bentley. S. O. 10, Department of the Gulf, January 18, 1878.

SPENCER, WM. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Townsend, W. T. S. O. 4, Department of the Columbia, January 7, 1878.

PHILADELPHIA, FEBRUARY 16, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF KIDNEY DISEASE SECONDARY TO HEART DIS- EASE.

Delivered at the Philadelphia Hospital, January 5, 1878,

BY JAMES TYSON, M.D.,

One of the Physicians to the Hospital, and Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania.

THE patient I bring before you this morning is one who has been long in the hospital, being admitted August 1, 1877, but who has come under my care only within the past three days. He is a German, 72 years old, and is by occupation a baker. His history is defective, but this much is easily ascertained. He was able to work up to two years ago. Since then he has felt weak and easily tired and short of breath. A year ago he first observed some swelling of his lower extremities, and since then he has had more or less œdema, which has been at times excessive, but again abated. He has also during this time been off and on in bed, getting up as his dropsy subsided, and going back to bed as it became worse. I have been unable to learn whether there has ever been any abdominal effusion,—ascites,—or pleuritic,—hydrothorax. When I first saw him he was in bed, and presented, as he does now, as the only evident symptom, some œdema of the subcutaneous tissue of the thigh and of the abdominal walls, but it was not excessive. His face had a florid, wholesome look, and he appeared well nourished. I was told that he had Bright's disease; and the œdema made it probable.

Now, many of you are aware that there are three principal diseases which cause the symptom dropsy,—heart disease, liver disease, and Bright's disease of the kidney. Various circumstances determine the order of examination of these organs with a view to determining which is the one affected. The mode of onset of the dropsy, to a certain extent, suggests the organ involved. Thus, it is said that when the dropsy is due to cardiac disease the effusion makes its appearance first in the subcutaneous tissue of the extremi-

ties, particularly of the lower; when the liver is at fault, abdominal dropsy first occurs; and in renal disease the œdema is apt to appear first in the face. In the present case I was told that the patient had Bright's disease, and naturally first investigated his kidneys. I found his urine, when freshly passed, of acid reaction, without sediment appreciable to the naked eye, of low specific gravity, 1010–1012, and dark amber-hued. It was copiously albuminous, as I now show you, depositing one-seventh to one-fifth of its bulk of albumen. But on examining the fluid by the microscope for casts, I found none after the most careful searching of four slides. This surprised me; for although there is a form of uncomplicated Bright's disease—chronically contracted kidney—in which the casts are sometimes absent, yet in it the quantity of albumen is always small. Never in a case of simple Bright's disease do you find a quantity of albumen as large as is here presented, without numerous casts. I therefore returned again to my patient, and ausculted his heart, when I found an evident murmur, mitral in place and systolic in time, a murmur indicating *mitral insufficiency* and *regurgitation*. The rhythm of the heart was also gone, its beat irregular, and on percussion the area of its dullness was found enlarged. All the symptoms were at once explained. I had to do with a failing heart,—a heart dilated, and with insufficient mitral valves. I came at once to the conclusion that the primary disease was cardiac, and the condition of the kidneys leading to the copious albuminuria was secondary.

Now, what are my reasons for coming to this conclusion? Chiefly the facts that although there is here a copious albuminuria, there are no casts in the urine; that where heart disease is secondary to Bright's disease,—a very common occurrence,—there is first hypertrophy of the organ; and valvular disease, which is much rarer under these circumstances, comes on only in the later stages, when atheroma of the arteries has become very general and the kidney disease has so advanced that not only is there copious albuminuria, but also an abundance of casts. In Bright's disease secondary to heart disease the urine is scanty and dark-hued, instead of being pale as when the Bright's disease precedes. Finally, I might refer to the mode of onset

of the dropsy, which began here, as it usually does in cardiac disease, in the lower extremities. For these reasons I do not doubt that the heart disease preceded the lesion of the kidneys.

The next question for us to settle is, What is the lesion of the kidneys, and how is it brought about? I will answer the latter part of my question first. What is the state of the circulation in mitral insufficiency? The blood is crowded on the venous side of the vascular system; regurgitating from the left ventricle into the corresponding auricle and thence into the lungs, the latter organs become engorged, and again resist the movement from the right side of the heart, whence the valveless venæ cavæ receive it readily. The smaller veins of the extremities at first resist it by means of the valves with which they are provided. But the veins of the abdominal organs, including the liver and the kidneys, are without valves. They are the first, therefore, to receive the brunt of the stagnation. They become gorged with blood, and it is as though a string were tied around the renal vein, preventing the exit of the blood. What is the consequence? The connective tissue so abundantly present in the liver, and although sparsely present in the kidney, still there in sufficient quantity to become the starting-point of new formations, becomes infiltrated with *liquor sanguinis*, the natural pabulum of the tissues. Thus supplied with food, the connective-tissue corpuscles proliferate. Others are formed by the proliferation and fixation of the amoeboid white corpuscles which, under the favorable circumstances afforded by a stagnated circulation, wander out in great numbers from the capillaries and small veins. These new cells are differentiated into connective-tissue fibres. The condition is that of an *interstitial nephritis*. The kidney as well as the liver, if examined at this stage, will be found hard and somewhat enlarged, dark-hued and injected. The capsule is still smooth, and strips off easily. On section, the organ is darker in color, also injected, and the cortical substance sometimes slightly increased in area. But this condition is rarely seen, and is soon substituted by another. The new connective tissue, playing its invariable rôle, begins to contract, to compress and destroy the proper secreting structures. In thus doing, a granular appearance of the organ is produced, and

its size is reduced; it becomes very hard and smaller, the capsule strips off with difficulty, and drags with it a portion of the secreting structure, exhibiting the granular appearance more markedly: a true cirrhosis results. This may be true of both liver and kidney, but the latter organ is the first to suffer. I present for your examination a granular cirrhotic liver removed from a patient who died in my ward yesterday. Observe the granular elevations about the size of a pin's head or larger, separated by depressed rings of connective tissue. Sometimes these are much larger, as large as the head of a nail, when the liver is called *hob-nailed*. Similar is the condition of the kidney of this patient. He has a cirrhotic contracted kidney, which differs not essentially in its pathological anatomy from that of the chronically-contracted kidney or the interstitial nephritis which is primary. Here, too, casts are comparatively few, but the quantity of albumen is small. The large amount of albumen in the class of cases of which this is a type is due to the increased venous congestion of the heart disease. Albumen, which does not osmose under normal conditions, is here placed under pressure, between the ligature about the renal vein in the shape of resistance to the return of the venous blood to the heart, and the blood-pressure due to the heart's contraction. Hence it is pressed through the walls of the capillaries, and copious albuminuria results.

Now as to the *treatment* of our case. The indications are evident. We have here a dilated, weak, failing heart, unable to drive the blood forward. Its power must be increased, and we have a remedy capable of doing this in digitalis. But sufficient doses must be given, whether of the tincture, powder, or infusion. The infusion, freshly prepared, is the most reliable preparation, although much of its efficiency is due to the fact that it is given in larger doses than the other preparations. Thus, it is not uncommon to give f3ss of the infusion, which is equivalent to nearly four ($3\frac{3}{4}$) grains of the powder and thirty minims or sixty drops of the tincture. Yet rarely are such doses of the latter given. Less than fifteen drops of the tincture—equivalent to about one grain of the powder—is too small a dose for an adult. This much may be given every three hours if the patient is seen daily, or oftener if the case

is seen twice a day. Our patient is seen twice daily, and we will give f3ij of the infusion, or nearly two grains of the powder, every two hours, pushed until the pulse is influenced. Under this treatment we shall expect to see the amount of urine increase, and the albumen diminish as well as the oedema; and to avoid complication we will order no other remedies at present.

I should perhaps state, in conclusion, that it is by no means always so easy as it appears to be in this instance to determine which of the two co-existing diseases—Bright's disease and cardiac disease—was the primary affection, characteristic symptoms of the two being so closely associated that it is impossible to say which preceded. But, whichever preceded, the addition of the second produces a condition very much more serious, and symptoms very much more distressing, than either alone would produce.

ORIGINAL COMMUNICATIONS.

REPORT OF CASES OCCURRING IN THE PENNSYLVANIA HOSPITAL.

SERVICE OF DR. T. G. MORTON.

By W. C. Cox, M.D., Surgeon to the Out Department.

(Continued from page 201.)

CASE III.—Death from Rupture of Aneurism of Innominate and Subclavian Arteries. *Post-Mortem.*—E. F., male, aged 48, colored, admitted June 11, 1877. Ten days before, his attention was directed to a swelling on the right side of his neck, just above the clavicle; about the same time he experienced diminished sensation in the right arm, together with a numbness and sense of cold in that part. There was no swelling of the arm. Mother and one brother died of phthisis; family otherwise healthy. Had syphilis nine years ago. In October, 1876, while lifting logs, strained his right shoulder and neck, and from that time complained of severe pain in the latter region, and where afterwards the aneurismal tumor was developed, which at the time of admission measured five and a half by eight inches in diameter. There was marked thrill with very distinct pulsation; the radial pulse was readily felt. Patient's condition presented but little change until August 8, when the pulse at the wrist could no longer be detected. The tumor had, however, been slowly increasing in size, and the patient had been suffering a great deal from dyspnœa. From this period, although the growth increased much more rapidly, at the same time he was relieved of the pain, from the fact that the tissues gave way over the

clavicle, and so the pressure from the trachea and thorax was removed (see figure). On October 22 the skin over the growth became exceedingly thin, and on the 28th blood began to ooze drop by drop from the summit of the tumor until the afternoon of the 30th, when the skin at that place gave way, and a stream of blood was projected three feet above the patient upon the wall. Death ensued almost instantly. The patient, on admission, was placed in bed, and ten-grain doses of potass. iodide given, which were rapidly increased to seventy-five grains daily. Morphia was also administered by mouth and hypodermically, and digitalis and aconite were given to con-



trol the action of the heart. At no time was there an opportunity offered for any operative treatment, for the aneurism was thought to involve at least a part of the innominate, and probably the carotid and subclavian. During the three months prior to his death, by the absolute rest in bed, a careful attention to diet, and occasional anodynes, the patient was made comparatively comfortable.

Post-Mortem. Notes by Dr. M. Longstreth. —Ascending aorta was thickened, rigid and roughened. The innominate for an inch, same as aorta, but there entered the larger aneurismal sac, which was composed of the remainder of the innominate and upper wall of first portion of subclavian. The tumor had dilated upwards and backwards, pressing the carotid artery against the spine, and entirely destroyed three-quarters of an inch of its calibre; it was imbedded in the aneurism walls as a thickened ridge. The tumor was pear-shaped, base at the lowest point and tapering upwards; was four inches from its summit to the innominate entrance; five inches wide; three inches in its antero-posterior diameter. The inferior and posterior walls of the sac were thick, had the same general appearance as aorta and innominate; the anterior wall was much thinner, except at its

point of contact with the sternal end of clavicle, where a mass of firm, fibrous tissue was found. In fact, the anterior wall was composed mainly of laminated clot and the skin, although on section a very delicate sac wall could be detected except at the point of rupture. Near the summit were two very thin spots, and a little below them a ragged opening, from which the hemorrhage took place, and which was filled with recent clot. On the lower outer surface of the aneurism the continuation of the innominate into the subclavian could be distinctly seen as a rounded trunk. The subclavian, after leaving the sac, was about the size of the innominate, and continued that size until its entrance to the smaller sac, which was composed of the lower wall of the subclavian, which had given way at the junction of the second and third portions of the artery for half an inch. This second aneurism was large enough to contain a hen's egg, and extended down behind the first rib to the second. Costal pleura was separated, and the right pleural sac had a low rounded prominence on its anterior surface. The aneurism extended upwards behind the clavicle, and was in contact with the wall of the larger sac over a space as large as a half-dollar. The terminal and mediate portions of the subclavian were normal. The nerve-trunks were found on the posterior surface of the dilatation. The cavity of the smaller aneurism was filled with layers of laminated clot and with a soft black clot. The internal mammary artery passed to the inner side of the smaller aneurism and appeared normal. No traces could be found of the other branches of the subclavian. The clavicle had been forced upwards and forwards, and its upper surface was eroded for one and a half inches. The first rib at upper and inner border was roughened, and on its under surface was a semicircular excavation about one-eighth inch in depth, and extending three-quarters of an inch across the bone.

Case IV.—Empyema; Paracentesis Thoracis; Recovery; New Chest Trocar for introducing Drainage-Tube.—J. F., male, aged 34, was admitted August 28, 1877, with a penetrating wound of the right side of the chest, the knife entering a short distance above the nipple, between the second and third ribs. No external hemorrhage or bloody expectoration followed, but there was severe pain and considerable prostration; marked dulness of the lower part of the chest came on at once from internal hemorrhage. Some weeks after this, pleurisy, with great effusion, occurred; the right side became more than half filled with fluid. Patient suffered greatly now from dyspnoea and exhausting cough. Symptoms increased, and on October 22 Dr. Morton tapped the chest with an ordinary trocar, and drew off one hundred and ninety-two ounces of offensive pus, which gave immense relief. Pus again soon collected, and

Dr. Morton inserted a drainage-tube through a double opening by means of a new trocar which he devised for the purpose (see figure).



The instrument was so constructed that it could be made to enter the chest at its lowest point anteriorly, and then by curving it backward could be brought out of the chest at a point far back and over the next rib above, so as to insure a constant drain from the chest when the patient assumes a recumbent or a sitting posture. After the instrument was introduced the trocar was removed, and the drainage-tube was passed through the canula; the latter was then removed, and the tube being held in position its two ends were tied together in front. The patient was greatly relieved of the dyspnoea at once, and has gradually improved in health; the lung is expanding.

OPERATION FOR THE CURE OF FISTULA IN ANO BY MEANS OF THE ELASTIC LIGATURE.

BY J. L. SUESSEROTT, M.D.

IN the report of the Schuylkill County Medical Society, published in the Transactions of the Medical Society of the State of Pennsylvania for the year 1877, Dr. John T. Carpenter, of Pottsville, records a case that was treated in October, 1874, with the elastic ligature with satisfactory results, and supposes it to have been among the earliest in this country. I desire to bring the following case to notice, not only to add my testimony to the success of the treatment, but also to record the fact that the operation was performed March 17, 1874. And in giving this endorsement, I am not ignorant of the

fact that no less a personage than John Eric Erichsen, F.R.S., F.R.C.S., is credited with having said that "a resort to the elastic ligature was a retrogression to the barbarities of the mediæval ages." But having had occasion to use it in various operations, since the case to be referred to presently, with uniformly satisfactory results, I think it well to keep it before the profession, and let it determine whether the Surgeon Extraordinary to Her Majesty the Queen, etc., is not mistaken, and that his conclusion was hastily drawn.

Hannah H., aged about 20 years, had suffered for some years with hemorrhoids, which resulted in two anal fistulas, one on either side of the outlet, and both including the greater portion of the sphincter. The one on the right side was situated farthest from the anal orifice, and extended about three and a half inches alongside of the rectum. At the date above mentioned, after having secured a good state of anæsthesia with chloroform, I introduced, by means of an eyed probe, into each track, a strong ligature composed of the elastic cord so commonly used by ladies about their dresses and also by milliners in their work. They were both drawn as tightly as could be conveniently done, and the patient was placed under the influence of a powerful anodyne. The one on the left side cut its way through in seven or eight days, the other one in about two weeks. Both fissures healed promptly, and the patient, who has since been the mother of one child, considers herself perfectly sound. No application was used to favor the healing of the wounds, and the suffering, which for the first few days was controlled by the anodyne, was hardly worth mentioning.

CHAMBERSBURG, January 31, 1878.

REPORT OF A CASE OF RUPTURE OF THE DUCTUS COMMUNIS CHOLEDOCHUS FROM THE PASSAGE OF A GALL-STONE.

BY E. L. B. GODFREY, M.D.,
Camden, N.J.

THE duration and intensity of the pain induced by the passage of a gall-stone generally depend upon the size and shape of the stone. As a general rule, no evil results from the passage, beyond the pain occasioned. Cases, however, are occasionally met with which furnish an exception to this rule. When the stone is unusually large and irregular as to its shape, or the canal of the common duct partially obliterated from previous inflammation, impaction of the stone, distention of the gall-

ducts, cholæmia, softening of the liver, ulceration and perforation of the duct leading to peritonitis, or sudden rupture of the duct and internal hemorrhage, may follow, and produce the most serious consequences. A case of rupture of the common gall-duct from the passage of a gall-stone has been reported by Prof. Hartshorne. In the case I report, death occurred, from the rupture of the common biliary duct and internal hemorrhage, twelve hours from the commencement of an attack of hepatic colic.

The patient was a young man, 28 years of age, who had never had an attack of hepatic colic. The attack began at nine o'clock in the evening, while the patient was on the street, and was so violent in its onset, and the pain so intense, that the patient was unable to walk, and was obliged to be taken to his home in a carriage. I saw him in about a half-hour after he had been taken home. The suffering at that time was extreme, and from the suddenness of the attack, the character, constancy, intensity, and locality of the pain, and the tenderness over the right hypochondriac region, I concluded that the patient was passing a gall-stone. Vomiting, which is usually a prominent symptom, was wanting. A hypodermic injection of a half-grain of morphia, with the internal administration of fifteen grains of chloral, and the application of hot poultices over the seat of pain, only moderated the suffering for a short time. These remedies were repeated as often and given in as large doses as I thought compatible with safety, and, failing to relieve the pain, ether was administered. The patient was kept under the influence of ether from 11.30 until 3 A.M. The effects of the ether were, however, allowed to pass off every fifteen or twenty minutes, in order to ascertain the progress of the passage of the stone. At 3 A.M. the ether was again removed, and the patient, in answer to questions, stated that he was free from pain, and would like to sleep. There was at that time very decided tenderness over the right hypochondriac region, and considerable prostration. Milk-punch was administered, and the patient slept well. The prostration, however, was no more marked than would naturally result from the severity and duration of the attack and the effects of the ether. Otherwise the patient was in a good condition, perfectly conscious, with a good pulse and good respiration. There was nothing to indicate that he had not successfully passed through the attack. I left the patient at that time, and did not see him until 8 A.M., five hours after the passage of the stone. When I saw him (at 8 A.M.) the unmistakable signs of approaching dissolution were markedly apparent. The patient was pulseless, respirations rapid, skin cold and sweaty, extremities decidedly cold, face pinched in its expression and of

extreme pallor, while his mind was impressed with the idea of impending danger. Every indication was promptly met, and stimulants were freely administered, but were of no avail. This condition came on so gradually that it failed to attract the attention of the patient's family until a short time previous to my visit. One hour from the time of my visit the patient died.

After death the conjunctivæ and the skin showed decided jaundice.

Thus the attack was six hours in its duration, four and a half of which the patient was under the influence of ether. Six hours after the passage of the stone the patient died, just twelve hours from the commencement of the attack.

Drs. Mecray and Melcher very kindly assisted me in making the post-mortem examination. On opening the abdomen we found the results of an excessive hemorrhage. The right and upper portions of the abdominal cavity were filled with blood. Knowing from the history of the case and the condition of the patient at the termination of the attack that the hemorrhage followed the passage of the gall-stone, we proceeded with our examination in that region. After exposing and examining the structures and failing to find the source of the hemorrhage, we tied the duodenum above and below the entrance of the common biliary duct, cut the duct in its middle, and inflated with a quill the end towards the gall-bladder, and found that air passed readily into the gall-bladder; then introducing the quill into the other end and inflating, we found that air escaped from an opening at the junction of the common biliary duct with the duodenum. Examination showed the duct to be ruptured at that point in the direction of its length, the rupture being about three lines in length, and extending from the circular fibres at the terminal extremity of the duct. The duct being smallest at that point arrested the progress of the stone, and the stone thus arrested was forced through the walls of the duct into the abdominal cavity. The liver was decidedly pale in its appearance; the gall-bladder contained but a small quantity of bile, and two gall-stones. The stomach, intestines, spleen, and abdominal organs were in a healthy state. It is difficult to account for the excessive hemorrhage. It unquestionably commenced at the time of the escape of the stone from the common gall-duct, lasted during the period of six

hours after the escape, and finally caused death. It is hardly possible that such an excessive hemorrhage could take place from the seat of rupture in the wall of the common biliary duct. It is possible, however, that the stone when forced from the common gall-duct cut the portal vein and thus gave rise to the hemorrhage. This view is based upon the depleted condition of the liver, the venous character of the blood, and the extent of the hemorrhage.

A CASE OF GESTATION AFTER AMPUTATION OF THE CERVIX UTERI.

BY D. BENJAMIN, M.D.

ON the 17th of June, 1876, I was consulted by Mrs. — (age about 39 years; married; mother of several children) for disease of the uterus. On making an examination I found a tumor about the size of a hen's egg protruding between the labia. On further examination the tumor proved to be a hypertrophied cervix, the whole womb measuring over five inches in length. The patient had borne no children for about eight years. Congestion and irritation of the parts were reduced by local treatment, and, in consultation with Drs. Ridge and Goodell, on the 30th of June, an operation was determined upon. On the 30th of August Drs. Ridge, West, and myself proceeded to operate. Ether was administered; a double ligature was then passed through the cervix, one-fourth of an inch below vaginal insertion, and tied loosely both ways so as to enable us to control hemorrhage. The wire loop of the écraseur was adjusted about one-fourth of an inch below the ligature, and the hypertrophied cervix removed. The ligature proved very satisfactory in arresting hemorrhage. The piece of cervix removed was fully one and a half inches in length.

No untoward symptoms occurred; the patient was going about the house in three weeks' time, and health, which had so long deserted her, returned.

On the 26th of January, 1877, she ceased to menstruate. On the 25th of March I found a polypus about half an inch long protruding from the os uteri. This I twisted off with the polypus forceps. The uterus was gravid, and gestation continued. The patient became plethoric, and was bled by me in May, and by Dr. Ridge in August. Nothing further of interest occurred until the patient fell in labor, on the 3d of October. Dr. Ridge was in attendance. The os was somewhat rigid, but dilated in about eight hours, and a fine male child, over the average size, was born. The mother is now perfectly healthy.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINIC OF DR R. J. LEVIS,

Surgeon to the Pennsylvania and Jefferson Medical College Hospitals.

Reported for the *Medical Times*.

FRACTURE OF THE FIBULA.

THIS boy whom I bring before you has fractured his fibula. Fracture of the fibula may be caused by direct or indirect violence; indirect violence by causing extreme eversion of the foot, and direct violence as from the kick of a heavy boot. The majority of cases are caused by extreme eversion of the foot, the break occurring a short distance above the malleolus. Fractures of the fibula are not liable to present great displacement, and are apt to be mistaken for a simple sprain or strain of the ankle-joint. The differential diagnosis between fracture near the joint and a simple sprain becomes, therefore, a matter of great importance, and I shall direct most of my remarks this morning to this subject. The fractures of the fibula which are likely to be mistaken for a sprain are those occurring in the lower third. The eversion is produced by the force causing the fracture being no longer resisted by the fibula. This form of fracture will throw the malleolus outward while the top of the lower fragment is tilted inward. If the malleolus is displaced outward, it allows of a greater amount of lateral motion in the joint. In examining with regard to this point, I should take hold of the foot firmly, and if it were a case of simple strain I should be able to produce no lateral motion, but if it were a case of fracture I could slide it outward, and feel the impact of the astragalus first against one malleolus and then against the other. Another point I wish to impress upon you. If there be great swelling, or if the patient is a fat person, you may not be able to detect the displacement in case of fracture. This obstacle I have overcome in this manner. I make out a fracture by grasping the fibula at a point some distance above the supposed fracture, viz., up near the knee, and lifting the fibula as it were. If it is broken below, I can tilt the bone there and produce pain at the seat of the fracture, though my hand is grasping the bone far above.

In a great many cases the displacement

is very slight, and rest only is required to bring about a cure. In this case, you see, the indirect violence has induced violent eversion. There is an outward tendency in the direction of the foot, so that in this fracture the malleolus is tilted outward and its upper portion inward. The interosseous ligament and the dense structures about the bones forming the joint, keep the displacement from being very great. These fractures are, as I have said, often best treated by rest only. Where the displacement is enough to give the leg a curved appearance, a splint is to be adjusted along the inside of the limb, and between the splint and the limb is placed a pad, which is to be used as a fulcrum to the splint. The roller is then applied over the splint and limb, binding the foot below and the leg above the seat of fracture firmly to the splint.

REFRACTURE FOR DEFORMITY AFTER FRACTURE OF FOREARM.

Here is a deformity following a fracture of the radius and ulna near the middle. There has been here imperfect apposition and consequent angular deformity of the ends of the fractured bones, which I purpose rectifying. This boy received the injury about three months ago, so that the callus should not as yet be so very hard. Sometimes we break the bones over again, even when the union is very complete. Sometimes, again, we drill the bone at the seat of the fracture, using for this purpose these bone drills. They are entered at a single point, and are made to traverse the bone in different directions. Sometimes, again, the drills are entered, but no attempt to straighten is made at the time, and the bones are allowed to remain until inflammation ensues. It is known that in a state of inflammation bone is softer and more easily manipulated than it is in the natural state. In rebreaking the thigh-bones and other strong bones, this is constantly resorted to. I have thus frequently broken the femur and the humerus. We desire in these cases to rebreak at the point where the fracture occurred. I bind two board splints firmly on the side of the limb, corresponding to the convexity of the angle, so that their approximated ends may meet directly over the fracture. The object is to obtain leverage, and to avoid, if possible, breaking at a point other than the seat of fracture. If it does not exceed three months' duration we may be able to rectify

this malposition by manipulating without any apparatus,—as I now produce a little motion by bending the limb in the direction opposite to the concavity of the angle. I want next to flex the fingers and put the muscles of the forearm in an easy position. I have by this means rectified the position without any difficulty after three months. Bones do not unite, after fracture, so soon as the books say; at least I have not found them to do so in my experience. Bond's splint shall be applied, with appropriate compresses, and the attempt made to give this boy a straight arm. [After a time the Bond's splint was removed, and dorsal and palmar straight splints applied with the hand semi-pronated, because the radius and ulna would then be parallel and less likely to become united by callus in the interosseous space. A third, very narrow splint was also placed along the ulna, to prevent deformity outwards. The boy was finally discharged with the deformity improved.]

PARTIAL AMPUTATION OF THE HAND.

This is a young man who is suffering from a gunshot injury of the left hand, caused by the bursting of a gun, which will necessitate the amputation of some part of the hand. I find that my assistant, before etherizing the patient, has been thoughtful enough to ask if he wore artificial teeth. This is a wise precaution, for death has been caused by artificial teeth becoming entangled in the fauces during the administration of an anæsthetic. Here is a right hand which has been shattered by the bursting of a gun, and, what is more than that, the most important portion of the hand, the thumb and the index finger, has received the greatest amount of injury. The metacarpal bone of the index finger is shattered, and must be sacrificed. I sometimes succeed in saving some or all of the integument in these cases, by dissecting off all the skin and afterwards turning it over on the palm of the hand. The metacarpal bone of the thumb is also blown away; I may save the integument, even if the bony portion of the thumb must be sacrificed. The skin of the hand, and especially of the palmar surface, has a good deal of vitality, and by dissecting it off we may save some of it. The metacarpal bones of the middle, ring, and little finger retain their integrity. We may interfere with the palmar vessels, and in that case

there may be hemorrhage. An Esmarch's bandage is applied, the index finger is removed by severing its slight integumental attachment, and the thumb is removed at the carpo-metacarpal articulation. Now the vitality of the integument of the thumb may not be much interfered with. I shall endeavor, therefore, to preserve some of it. I have saved enough to close the gap between the palmar and dorsal flaps after cutting away the redundancy. Recollect that the radial artery is in close proximity and must be avoided. Now I must get rid of the pulpified tissue, which perhaps is best done with the scissors. The projection of the trapezium is also retrenched with the bone forceps. I can make a pretty fair approximation. The constricting band is now removed, the volar artery is tied, several other bleeding vessels are ligated, and the wound is washed with water. You see the skin which I dissected from the thumb comes in well here. I bring it over the external surface of the metacarpal bone of the middle finger. The accommodation of the flaps is assisted by a few snips, taking off the redundancies, and the approximation is made by means of fifteen silver wire sutures. You see we have restored it in pretty good shape. The dressing shall be lint and carbolized oil, and it is exceedingly probable that we shall have a fair amount of use in this maimed hand, which will at any rate be far better than any form of artificial hand.

* * * * *

[There was considerable burrowing of pus in this case subsequently, and he was finally discharged to the out-patient department of the hospital with an ulcer still remaining at the point where there had been some sloughing of the cutaneous flaps.]

TRANSLATIONS.

PATHOLOGICAL ANATOMY OF LEUCOCYTHÆMIA.—Dr. A. Szastnoy, of St. Petersburg (Prof. Rudnew's *Journal for Normal and Pathological Anatomy and Clinical Medicine* (Russian), 1876, p. 261), has written a long and exhaustive paper on leucocythæmia. The conclusions he draws from the study of a series of cases, and from elaborate microscopical researches, are as follows:

1. Leucocythæmia is anatomically characterized by new formations of the type

of the lymphatic tissue, belonging, according to Virchow, to the lymphomæ.

2. The leukæmic lymphomæ, affecting primarily the lymphatic glands and the spleen (hyperplasia), do not limit themselves to these organs, but are capable of dissemination to surrounding structures, and even to distant metastasis.

3. The leukæmic lymphomæ of the lymphatic glands and the spleen do not differ anatomically from lymphomæ of the same organs, due to other pathological processes, and, in the absence of other lesions, are not important in the diagnosis of leucocythæmia.

4. By careful microscopic examination it can be seen that the leukæmic new formations, beyond doubt, do exist in the connective tissue of the organs involved, predominating along the course of the vessels filled with white corpuscles, and being characterized by very distinct and durable cellular elements, of round shape.

5. These exclusive peculiarities of the leukæmic lymphomæ, together with the constant feature of the small veins and capillaries being distended and filled with white blood-corpuscles, are entirely sufficient to diagnose leucocythæmia anatomically, and to distinguish them from tuberculosis, scrofulosis, etc.

6. The leukæmic new formations are usually secondary lesions affecting organs which were previously involved by some other pathological process.

7. The chronic interstitial and the parenchymatous inflammations usually observed in these lesions cannot be regarded as the cause, but as being due to the new formation.

8. The leukæmic lesions are produced chiefly by extravasations and proliferation of white blood-corpuscles. The new-formed lymph-cells coming in contact with, and infecting, as it were, the elements of the connective tissue, call forth an increase in size and number of the latter, and involve in this way also surrounding structures.

9. The lymphoid elements agglomerating around the vessels, between the connective-tissue fibres, by and by push asunder the latter as well as the parenchymatous elements of the organs involved, and produce atrophy and fatty degeneration of the cells concerned. Hence the destructive character of the leukæmic new formations.

10. The lesions of the bones in leucocythæmia are *not due to active hyperplasia of the bony marrow*, but exclusively to increased extravasation of white blood-corpuscles and their proliferation outside the vessels of the marrow. H. F.

LOCAL TREATMENT OF THE VARIOUS FORMS OF SYPHILIS.—Sigmund (*Vierteljahrsschrift f. Derm. u. Syph.*, 1877, p. 436; from *Wiener Med. Wochens.*) prefers water, alcohol, ether, collodium, and glycerin as excipients before the various ointments, the former being neater and cleaner, simpler, more easily prepared and kept, and more conveniently used. Chlorate of potassium and acetate of lead may be used with advantage in aqueous solution (1:30) as protectives in excoriations of the skin of uncertain character. Even in extensive injuries, when these are superficial, they act well by coagulating the secretion and thus preventing further infection. They do not irritate the wound or the neighboring healthy integument, and they cause no pain. The lead is to be used preferably in excoriated, moist papular infiltrations, mucous patches, etc., in order to prepare these for the later use of other local means. Alcoholic solution of corrosive chloride of mercury (1:400), when applied carefully, covers excoriated and eroded patches of skin with a thin adherent layer under which the formation of epithelium goes on rapidly. The application can easily be confined to the spot required, and its action may sometimes be hastened by quickly brushing the affected region with alcohol beforehand. Stronger solutions (2-10:400) are caustic, and are best made in collodium. Sulphate of copper solution (1:200-400) makes a good wash or injection for use between the prepuce and glans. Stronger solutions (1:50-100) used for 5 to 15 minutes are caustic, and concentrated solutions (1:3) are useful in deeply destructive processes in the soft parts: they give rise to a sharply-defined adherent crust, which comes away after some days, leaving a healthy sore. This salt may be employed to advantage in other forms (as ointment, crystal, powder, plaster) instead of nitrate of silver. The latter is particularly useful in lesions about the mouth. Empl. hydrarg. is a variously useful ointment, but is too stiff for ordinary use, and should be mixed with empl. saponis. From this mixture may be formed little plates, balls, rods, bougies, etc., at pleasure. Syphilitic infiltrations become

more rapidly absorbed under the local use of empl. hydrarg.

The preparations of iodine and bromine are particularly useful in diphtheritic exudations. Iodoform Sigmund thinks only occasionally useful, and not to be recommended, on account of its disagreeable and penetrating odor. Chloride of gold is quite inert.

Chloride of iron acts very much like sulphate of copper, only it is more penetrating and injures the whole skin. In indolent, easily bleeding, gangrenous ulcers, complicated with scrofulosis or scorbutus, occasionally used according to Lister's method, chloride of iron acts surprisingly well.

Chloride of zinc acts very much like chloride of iron, but is not quite so satisfactory in the cases above mentioned. Chloride of zinc paste is not suitable for syphilitic patients. Phenyl, salicyl, and thymol are not worth much either as dressings or as caustics. They are useful, however, in diphtheritic and necrotic wounds, and also in abscesses of the lymphatic glands if these are complicated with diphtheritis and gangrene. They may be employed in watery solution 1:50 to 100 for cleansing or as paste. x.

RETROPHARYNGEAL ABSCESS IN YOUNG INFANTS (Justi: *Le Mouvement Méd.*, 1877, p. 572; from *Cbl. f. Chir.*).—It is known that primary idiopathic retropharyngeal abscesses, arising from the retropharyngeal glands and from the connective tissue surrounding them, are rare in infancy. Justi has observed only four cases in twelve years. Henoch observed only four cases in four thousand five hundred children under his care. Oppolzer mentions a number of cases in which asphyxia was due to abscesses opening spontaneously. M. Justi's four cases occurred in infants of six, seven, nine, and eleven months. In one instance tracheotomy became necessary; the child died during the operation. In the second case the parents refused to allow an operation, and the child died asphyxiated. In the two other cases the abscesses opened spontaneously, their contents escaping by the mouth. Scrofulous infants are particularly liable to retropharyngeal abscess.

With regard to symptoms: accumulation in the palatine cavity of glairy, frothy matters, reproduced in a little time after being removed, then swelling to a greater

or less extent of the sides of the neck, rapid respiration, and muffling or extinction of the voice, all point to this affection. The diagnosis may be completed by digital exploration of the back of the pharynx. In doubtful cases, exploratory puncture of the back of the pharynx is to be recommended. Should this exploration be neglected, and the case turn out really to be one of retropharyngeal abscess, death is almost inevitable. Justi gives notes of two cases which exhibit strikingly the difficulty of diagnosis, and the instant relief afforded by puncture. x.

GASTROTOMY.—At a recent meeting of the Académie de Médecine (*Le Mouvement Méd.*, 1877, No. 50) M. Cazin read a paper upon this subject, which terminated with the following conclusions. 1. Gastrotomy is applicable to cases of internal strangulation by bands or torsions, and in general when occurring suddenly, and in invagination. 2. It is not necessary to know the exact seat of the difficulty before operating. 3. Tardy operation diminishes the chances of success. 4. When the seat of occlusion is unknown, the incision should be in the median line, and sufficiently long; when known, the incision should be made over the seat of the occlusion, and should be relatively small. 5. In order to find the point of strangulation the operator should have in his mind all the possible causes of the difficulty, and should follow the method of Pansl, which simplifies the manœuvre considerably. 6. During the operation, extreme cleanliness, as in ovariotomy, should be observed, and Lister's method, at the same time antiseptic and antiphlogistic, should be employed. 7. Unless some particular indication arises, the patient should be left in perfect quiet, general and local; that is to say, the intestine should not be disturbed by enemata and purgatives. x.

CINCHONIDIA.—Dr. Hugh T. Nelson (*Virginia Medical Monthly*, December, 1877), after a large experience with cinchonidia as an antiperiodic, concludes that it is equal in efficiency to quinia in doses of the proportion of 1½ to 1 of the latter alkaloid.

THE death of M. Claude Bernard is announced by telegram. He was born July 12, 1813, at St.-Julien, Department of the Rhône, and was consequently in the sixty-fifth year of his age.

THE ordinary consumption of opium in this country is about three hundred thousand pounds per annum.

PHILADELPHIA

MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 16, 1878.

EDITORIAL.

THE PAYMENT OF MEDICAL EXPERTS.

THERE has been recently before the Indiana courts a case involving the right of medical experts to be paid for their opinions, and, consequently, of great general interest to the profession. Drs. Dill and Buchanan, of Fort Wayne, were called upon, in a trial for rape, to give an opinion upon a supposititious case, without prospect of compensation. They declined, and were sent to prison for contempt. Through counsel they then appealed to the supreme court of the State, asking for relief by habeas corpus proceedings. The chief argument of their counsel centred upon the proposition that their opinions concerning a supposititious case were their private property, acquired at a great expense of time, money, and labor, and consequently could not be taken from them for the public weal without compensation; also, that the rendering of such opinion was a particular service, and that the constitution of Indiana expressly provides "that no man's particular service shall be demanded without just compensation."

Whatever may be law, it seems to us common-sense justice and interpretation that giving a medical opinion is as much a particular service as the giving of a half-day's labor by a skilled mechanic, and that the State has as much right to take *vi et armis* the carpenter's means of livelihood—*i.e.*, his physical labor—as to take that of the physician,—*i.e.*, his mental labor. It was further clearly shown in the plea of the counsel for the doctors that a lawyer's opinion or service could not

legally be demanded by the court without pay.

In answer to the plea of the prisoners, Judge Lowry gave a very elaborate opinion, which may be found in full in the January number of the *Cincinnati Lancet and Observer*. As a result of this opinion, Drs. Dill and Buchanan were remanded to prison, and subsequently obtained their release by testifying as desired in the criminal court and thereby purging themselves of contempt.

It would be foolish for us to attempt a legal criticism of the opinion of Judge Lowry. We have no doubt that it is good law, for usually where a judicial decision is plainly unjust it is legally most excellent. A judge rarely has both bad law and bad justice simultaneously on his conscience. It would disturb his digestion as much as did Mark Twain's famous Yankee skipper that of the unfortunate cannibal who dined off of him and miserably perished through his toughness and oiliness.

It is, however, allowable for us to note several points in the judge's decision which to the untutored non-legal mind seem contradictory. The right of the attorney to compensation already spoken of is admitted. The cases seem to us parallel,—a use of intangible or not-materialistic skill involving no absolute loss except of time and labor by a professional man. But then there is the difference of the sympathy with a colleague and the jealousy of a rival profession, to say nothing of the antagonism of opinion which so often arises in the court-room between judge and doctor. The distinction is foreshadowed in our nursery rhyme. The old woman in her abbreviated skirts and unrecognized by her little dog was not to be put upon a footing with the same female in her glory of flowing robes.

More strangely, it is asserted by the judge that a physician ordered by the legal authorities to make a post-mortem examina-

tion has a right to demand compensation, but when called on for an opinion is debarred from asking more than at the rate of one dollar and a half a day. In either case there is an expenditure of time and exercise of skill acquired at cost; and why the difference? We are sure most doctors would rather make the post-mortem than dance attendance upon the court. Ah! but one is a particular service, and the other is not: so says the judge, and to his dictum we must humbly bow.

If the supreme court in full bench confirms, as no doubt it will, the decision of the individual judge, there are only two lines of defence left open to the profession of Indiana. Let the profession of the State collectively and earnestly carry the war into the Legislature, and the probability is that a proper law can be obtained. Otherwise, let general practitioners deny that they are experts, and thereby avoid all trouble. The truth is that most of the physicians who are called upon in courts are, in the high sense of the term, not experts, and much confusion and disgrace is caused by excellent and even learned practitioners, who have never studied or had experience in medical jurisprudence, assuming to decide delicate medico-legal questions. It would be a great gain if the putting aside of the vanity of individual doctors or the recognizance of principles by the courts would throw medical expert business into the hands of the comparatively few who really understand it.

ACCORDING to the recent report of President Eliot, the new régime at the Medical Department of Harvard has been, pecuniarily speaking, very successful,—the school having in three years accumulated a surplus fund of twenty-five thousand dollars after paying all expenses. From a scientific point of view the boldness and ability of the progenitors of the change have met with no less reward. The percentage of persons holding literary or scientific

degrees among the students of the medical school has risen to forty-four per cent.; seven years previously it was twenty-three per cent. Out of thirteen candidates examined for admission to the school who presented themselves in June, 1877, seven were admitted and six rejected; out of twenty-nine candidates in September, twenty were admitted without conditions, seven with conditions, and two were rejected.

THE merits of dialyzed iron as a chalybeate tonic become more and more apparent day by day. It is therefore of great importance that the manufacturers should keep up the standard of excellence; but as the price goes down and the demand increases there is a double temptation towards deterioration. We are therefore glad to see such papers as that of Mr. Henry Trimble in the last number of the *Journal of Pharmacy*, since fear of exposure is, after all, the greatest conservator of human morals. Mr. Trimble has analyzed samples made by six leading manufacturers of this city, and found that only one at all approximated the advertised strength,—namely, five per cent. of the oxychloride, —the scale ascending from 2.514 per cent. to 4.831. Most of the specimens contained a remarkably small amount of chlorine.

The *London Medical Examiner* of January 24 has a very appreciative notice of lectures by the notorious Mrs. Victoria C. Woodhull, who, it seems, is starring it in London. The theme appears to have been a congenial one with the orator,—namely, “Procreation.” We trust she will meet with a measure of success which shall induce her long to tarry among our British cousins, who firmly believe “that she is sincere in all she says,” and with whom “as an orator she ranks deservedly high.”

THE world-famous electrician and manufacturer of electrical apparatus, Herr

Ruhmkorff, started at sixteen years of age as porter in the laboratory of Prof. Chevalier. He is said to have died poor, having spent his large earnings in scientific experiments.

THE Italian Government, having determined that a national Pharmacopœia is a necessity, has organized a commission for its preparation, and appointed Professor Cannizaro, of the University of Rome, its president.

RECENTLY a very damaging explosion occurred in a mixture ordered by a physician, of nitromuriatic acid and tincture of cardamom. Nitromuriatic acid should always be prescribed by itself.

CORRESPONDENCE.

LONDON LETTER.

THE most important subject of medicine at present here is that of the lectures of Dr. Burdon-Sanderson on the "Infective Processes of Disease." It is well known that Dr. Sanderson is a great authority on pathological processes, especially those connected with what are known as infective processes. He uses the word "infective" because "infectious" has acquired a secondary meaning which unfits it for his use. He holds that no contagious disease can arise *de novo* any more than an organism can originate *de novo*. About some infectious diseases we are practically certain that the true plant never comes up unless the seed has been sown, as, for example, syphilis, smallpox, or hydrophobia. About others we may allow ourselves more latitude, as about traumatic affections. It has long been familiar that an inflamed part is a focus from which irritating material is distributed to healthy parts by radiating lines of absorption; but it is only of late years that it has been distinctly seen and recognized clinically that every exudation-liquid of an inflamed part is more or less phlogogenic,—i.e., carries with it more or less the properties of an inflammation-producing virus. Inflammations may be divided into two classes,—the infective and the non-infective. In the non-infective (normal) inflammations the pathological effects are coextensive with the injury, so that no tissue is destroyed except so much as has been spoilt by the noxa itself; in the infective the surrounding tissues are damaged, and, to a greater or less degree, destroyed, by the extension of the pathological process. When

no tissue is disintegrated beyond the limits of the injury, the reparative processes at once begin. Whenever the solution of continuity is surrounded by a zone of damaged tissue, then there is potentially an infective focus; and the question whether it will extend its influence beyond the limits of the part primarily affected depends on conditions which, however they may originate, have their seat of operation exclusively in the wound itself. He holds still that an essential condition of the development of infective action in a wound or an inflamed serous membrane is the presence in it of the organisms which he terms microgymes. In speaking of cholera, he thinks the question of germs or no germs should be eliminated from the inquiry. There are two factors, then, a local miasm and an epidemic influence. So important is the first that in India they say unhesitatingly the cause of cholera is local. In Europe cholera is an invader, passing over in storms. But the local factor is not without its influence; and some towns, like Birmingham, have always escaped, while Munich suffers severely in every cholera wave. Pursuing the infective process, he said that septic extracts were now filtered so as to get rid of any mechanical interference with the circulation. When injected into an animal first it shudders, then the muscular power is much lessened; at the same time the alimentary tract is affected. There is vomiting, with first feculent stools and then sanguinolent and mucous dejecta. If the amount of septic material administered be just below the lethal limit, violent gastro-enteric symptoms will pass away, and the animal will recover with great rapidity. The septic matter does not tend to multiply within the organism. When death occurs, it is due to heart-failure. After death it is found that blood is freely extravasated beneath the endocardium. The pleura and pericardium present points of ecchymosis. The spleen is enlarged and infiltrated with blood; while the mucous membranes of the stomach and intestine are intensely injected, the epithelium having been shed in life. The blood-corpuscles are affected, and the liquor sanguinis is itself of a red hue. Consequently, a large quantity of coloring-matter is lost by the blood-stained evacuations, or by the transformation of hæmoglobin into bilirubin. Accordingly, when animals recover from septicæmia, they are in the highest degree anæmic. Pyæmia is a malignant process which goes on and on to its fatal end; but in the case of septicæmia, inasmuch as the poison which produces it has no tendency to multiply in the organism, there is no reason why the morbid process should not come to an end of itself, unless either the original dose is fatal or a second infection takes place from the same or another source. His septic extract is prepared by boiling a putrid infusion of muscle in alcohol, then getting rid of the

alcohol, and then dissolving the alcoholic precipitate in water. It is toxic, and lethal in certain doses, like strychnia, or other poison.

It contains tyrosin, that is certain; and, probably, analogous bodies. It is perfectly transparent, but loses its virulent properties on being filtered through porous porcelain. Bacteria are not the agents in septic infection; but they are, nevertheless, the producers of the septic poison; just as the yeast-plant does not produce intemperance, but it produces that which does. Dr. Sanderson demonstrated the relations of the bacteria to the septic fluid by elaborate evidence. He then discussed the efficient cause of septicæmia, the septic poison, and the nature of the pathological process. Of the latter he said that it was characterized by (1) the loss of muscular strength, particularly of the heart and respiratory muscles; (2) by the marked tendency which exists to the development in certain viscera, but more especially in the lungs and in those which send their blood into the portal vein, of a congestion which has as its concomitant results capillary stasis and hemorrhage and diffused infiltration of the affected tissues; and (3), finally, by brain disorder and fever. He holds that the pernicious influence is first exercised on the blood-corpuscles. In forming this opinion, he is influenced by the fact that if two ounces of blood be taken from a dog, and allowed to coagulate, and then the clot be broken up and kneaded by the fingers, and the strained blood be re-injected into the animal, the gravest consequences follow. In a few minutes the animal is collapsed as if poisoned, the heart beats irregularly, and the respiration is difficult. Soon, alvine discharges appear, to be followed shortly by mucous and sanguinolent evacuations, and the animal dies in a state of great prostration: the post-mortem appearances are identical with those of septicæmia. The blood is fluid, and contains abundant masses of bacteria. There is this difference, however: the liquor sanguinis is not ruby-colored, as in septicæmia. In the coagulation of the blood a large number of colorless corpuscles are broken up into granular matter, and from this granular debris the filaments of fibrin are seen to be originated. Besides the fibrin factors there is in the blood a ferment which excites the molecular changes which result in coagulation. It is in the leucocytes that this ferment is produced. When the blood is returned to the body, intravascular coagulation is induced. This is very marked in terminal vessels like those of an intestinal villus, and, consequently, the alimentary tract is profoundly affected. As to the pyrexia, he says, "I think it very unlikely that it is produced by the disintegration of the leucocytes. It seems to me much more probable that the damage done by the septic poison has a wider range, and affects all the more unstable forms of proto-

plasm, that is, all the more active structures of the body; and that, in accordance with the view of fever which I submitted to you in my lectures here four years ago, the pyrexia which it produces is the expression of that general damage." Dr. Sanderson's lectures are not concluded yet, and will be referred to in my next letter. They are most important contributions to our knowledge, and have a high practical value.

The whole of our pathological knowledge will be brought to bear in time upon practical medicine; and though such bearing is not always readily and at first sight apparent, still it is found sooner or later to be operative. This study of the infective process already promises to branch out in several important directions and to bear practical fruit. We see that a certain dose of septic poison can be survived, while a larger dose is certainly lethal; just as we see is the case in poisoning with other toxic agents. Consequently in septicæmia a certain dose of the poison may be survived, because it is not reproduced in the system. On the other hand, the hopelessness of pyæmia lies in the fact that continuous poisoning goes on from one or more infective foci, and consequently all the efforts of the system to rid itself of the poison are neutralized and rendered inoperative by this new poisoning constantly going on within the organism. The study of the active agents in the infective process will indicate in time a valid line of treatment.

During the recent festive season there has been a large consumption of natural waters as well as of other good things of life. Indeed, too much of the other good things leads to the necessity for such waters, whether as beverages to satisfy thirst and in doing so to wash the tissues, or as active cathartic agents. The use of such waters is now very extensive, and there are many applicants of each order for public favor. Some of these are largely recommended by leading members of the profession, a fact which seems very objectionable to the *New York Medical Record*. In the same number which announces its enlargement, it takes umbrage at the fact that the European practice of advertising the medical recommendation of certain waters has extended across the Atlantic and spread into the United States of America. It forebodes the most disastrous consequences therefrom, and looks upon the thing as a moral cholera; the disintegration of all medical ethics has been initiated thereby, and the profession in America is apparently doomed to a swiftly-coming decay, as the consequence of such acts as the testifying to the qualities of waters by leading members of the profession. It might have struck the writer, first, that such members of the profession are least in need of any notoriety such advertising may give them; and second, that having already acquired reputations they have something to lose which they are not likely to

throw away recklessly. It is not likely, on the face of the thing, that men of professional status and eminence are going to imperil their reputations by certifying to a water that is not what they state it to be, unless American shrewdness is wearing out amidst their medical men. On the other hand, what is not only done by many eminent men in Great Britain, but also by such Germans as Virchow, Bamberger, and Scanzoni, can surely not be so very demoralizing, and there can be nothing very lowering to such well-known men as Fordyce Barker, Lewis Sayre, Flint, and Hammond, in their following the example set them. That the dignity of a time-honored profession is imperilled by such testimony may be clear to the writer of the article, but it certainly is not very apparent to us on this side of the water. Certain it is that a reckless resort to medical testimony, and the abuse of it, would be unfortunate in every way; but that is not yet the case. Perhaps the *New York Medical Record* has got a prophetic eye, and is peering into the distant future and seeing what is not yet apparent to the ordinary vision. The whole question of putting forward medical recommendations and testimonies shows, in a very unmistakable manner, the importance which the public attaches to the opinion of the profession. There is no doubt about the fact that the confidence of the public in the medical profession is on the increase, and deservedly so. The profession is making the most strenuous efforts to render itself worthy of public confidence, and it is feeling that its well-earned position is being more and more recognized and its claims to be heard admitted. At this time, anything which could tend, however remotely, to shake this position and to lessen the confidence reposed by the public in medical men would be very unfortunate. It is quite proper that medical journals should exercise the keenest supervision over the profession collectively and individually; they must indeed constitute themselves the wardens and custodians of the morals of the profession. But, such being the case, it makes it all the more necessary that charges brought against the profession or members of it should be founded on strictly public grounds, and not have about them a flavor of personal feeling.

Such guardianship of the profession is fast being demonstrated by a controversy started in the *British Medical Journal*. It commenced by a letter headed, "A Lost Medical School," and pointed out the present position of medicine at the old and famous University of Oxford. According to the late Henry Thomas Buckle, Oxford has always been ultra-conservative and obstructive. Medicine has never flourished very genially there; the soil there is apparently not very well adapted for the growth of a study which is essentially liberal in every way. Some time ago great

things were expected, but now the medical teaching is falling into abeyance. It appears that in the *University Gazette*, at a recent date, stood "Medical Faculty: Regius Professor, H. W. Acland (no lectures); Clinical Professor, H. W. Acland (no lectures)." Now even this semblance of an existence has passed away, and the faculty has been removed from nominal being. It is further stated that "the chair of physiology, founded by the late Commissioner of 1854, has been equally diverted from the service of medical science and of physiology proper. Founded on the remains of the old chair of human anatomy, the present holder, Professor Rolleston, occupies himself and his pupils with any variety of collateral subject, provided that it has no relation to human anatomy and physiology and cannot possibly be pressed into the service of medicine. Saxon interments, early ceramic ware, and pre-historic pigs monopolize the attention of the successor of Willis." This is certainly severe upon the distinguished author of "The Forms of Animal Life." It appears, too, that the famous Radcliffe Infirmary, with its two hundred beds, is unused for medical instruction. This charge is brought forward by a person evidently well acquainted with the facts, and certainly not afraid of speaking out. It seems lamentable that something more cannot be done to keep medicine alive at Oxford. It seems to be flourishing, for the present at least, at the rival University of Cambridge; but whether this is just a transient gleam, soon to die out, as the Oxford flash has, or something of a permanent nature, remains to be seen. At Oxford, medicine is being utterly neglected; even the Radcliffe Library has been removed from its home in the well-known dome, and the Radcliffe funds are made to supplement the Bodleian Library. The two libraries are now mixed up to a large extent, and it appears that the Bodleian librarian refuses to buy works on physical science. "It appears the clergy have proved themselves the deadly enemies of the medical faculty at Oxford, and Dr. Lee's Readership in Anatomy (worth £300 a year) is now misapplied in paying a gentleman to coach the undergraduates of Christ Church in zoology for their B.A. degree." These statements almost suggest the idea of the deliberate betrayal of the medical interests by the two professors mentioned, if the high character of each of them did not preclude it. It is evident that there exists in Oxford some body which is hostile to medicine and strong enough to stifle it. The well-known hostility of the clergy to medical men for their support of evolution has been demonstrated by their activity in the anti-vivisection agitation; while at Oxford, where they are supreme, they are practically abolishing medical study at the University. Of course the utter puerility of such tactics to stop the growth of modern thought is obvious enough.

But these people may succeed by their manœuvres in attracting such a share of public attention as shall cause an entire reform at Oxford. They possess, if they were only rightly used, the funds to endow such a medical school as exists not elsewhere in her Majesty's dominions; and if the present exposure should lead to such results, one can only feel that any pain or suffering caused to the two present professors by this ventilation of the subject must be endured by them with such stoicism as they may possess; and they can certainly console themselves with the thought that it is a species of martyrdom they are enduring. At present, the men who desire to take a medical degree at Oxford mostly gather to St. Bartholomew's Hospital for their medical work. They, of course, are anxious to defend their old friends and teachers; but, if the facts are as they are stated, they will find defence difficult.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, NOVEMBER 22, 1877.

The PRESIDENT, DR. H. LENOX HODGE, in the chair.

Perforating typhoid ulcer of ileum. Presented by Dr. F. P. HENRY. Clinical history by Dr. LOUIS STARR.

C. G., æt. 31, an Alsatian, a cabinet-maker by trade, was admitted to the male medical ward of the Episcopal Hospital on November 2, 1877. His health had been good until two weeks before admission, when he began to suffer from headache and general malaise; there was also a tendency to diarrhœa, and upon several occasions he had slight hemorrhages from the nose. On October 31 he became too sick to work, and upon coming to the hospital, two days later, he presented the ordinary features of a case of typhoid fever of moderate severity. During the first five days of treatment, complaints were made of abdominal pain, and the diarrhœa was more than usually profuse; at the end of this time, however, both symptoms abated, the stools being reduced to one or two in twenty-four hours, and the disease appeared to be progressing very favorably.

At noon on November 11, the tenth day of treatment and the twelfth day of the attack, the patient was suddenly seized with severe pain in the right iliac region; one hour later, he had a severe chill, accompanied by the discharge of about half a pint of dark, partially clotted blood from the bowel. Throughout the succeeding twenty-four hours there were eight hemorrhages from the bowel, the quantity of blood lost being estimated at nearly six pints. There was *slight* distributed tenderness of the abdomen, the respiration

was chiefly thoracic, and deep inspiration caused pain at the epigastrium, but there was little or no abdominal distention. The general symptoms were those of collapse. The intellect remained clear almost up to the moment of death, which occurred at 2.30 P.M. on November 12.

I am indebted to Dr. Starr for the preceding clinical history, and for the opportunity of presenting this specimen.

I have already read two papers before this Society on the intestinal lesions of typhoid fever, with special reference to the occurrence of perforation, in which I maintained that peristalsis is abnormally excited in typhoid fever, and that this abnormal peristalsis occurring at a critical period of the disease, viz., when the patches are at their acme of medullary infiltration, might convert what would otherwise be a gradual molecular ulceration, into a sloughing *en masse*, and thus favor perforation. I also maintained, and do still, that peristalsis favors perforation not only in the manner just described, but also in all three of the modes in which, according to Murchison, this accident occurs,—viz., "1, by rupture of the attenuated coats; 2, by a continuance of the ulcerative action leading to a pin-hole perforation; 3, by sloughing of the entire thickness of the bowel, and the dropping out of the sloughs." The gradation of the lesions I explained by the distribution of the superior mesenteric vein. It was argued, in opposition, that a perforation frequently occurs high up, and in states of constipation; but for fuller details I refer to the last volume of our Transactions.

Since my last paper I have analyzed twenty cases of perforation with reference to its association with diarrhœa, its situation, date of its occurrence, and the time elapsing between the first symptoms of the accident and the time of death. The cases are not numerous, but are interesting, because they are, I believe, the only ones that have been analyzed from these points of view, and because they afford a very decided confirmation of what I advanced on more strictly theoretical grounds.

Sixteen of the cases are reported in the first twenty-seven volumes of the Transactions of the Pathological Society of London, and three in the Transactions of the Pathological Society of Philadelphia. The case just reported makes the twentieth. In five of the cases there is no statement with reference to the condition of the bowels; in one the bowels were "regular;" in thirteen there was, either throughout or at some period of the disease, diarrhœa of all grades of intensity, from "profuse" and "urgent" to "slight."

In one of these cases perforation occurred during a relapse; in the primary attack there was diarrhœa, none during the relapse. In another there was at first constipation, for which compound jalap powder and castor-oil were given! It is scarcely necessary to add that

diarrhœa set in, nor is it at all to be wondered at that perforation occurred. In one case only was there a generally constipated state of the bowels. This is one of Dr. Murchison's cases, and is to be found in vol. xvii. Trans. Path. Soc. Lond. This, therefore, is the only case I have yet encountered that seems to militate against the peristaltic theory; and even it can be fully explained. The patient was a male, æt. 14, and death occurred "on the forty-second day, after apparent convalescence." He was gaining strength when, on the thirty-ninth day, he "had pain in the stomach relieved by pressure." . . . "It is worthy of note that the bowels had been constipated for several days." The author evidently considers the thirty-ninth day as the date of perforation, when the patient "had pain in the stomach relieved by pressure." Probably the pain was of a colicky nature, due to peristaltic efforts to impel the solid fæces along the intestine, and this *peristalsis* led to perforation. After perforation the pain is not "relieved by pressure;" and it is worthy of especial note that "on the following day the pulse rose to 124, the belly *became* very distended and tender," etc.

In the twenty cases there are twenty-seven perforations. In the present case, it will be noticed, there are three, very near together. In five cases the perforation was situated in the large intestine, as follows: in one case the vermiform appendix was perforated; in a second there was one perforation in the colon three and a half inches below the valve, and two in the sigmoid flexure; in two other cases there were single perforations of the sigmoid flexure; and in the fifth there was a perforation of the cæcum, communicating through an abscess with one in the ileum. As regards the seat of perforation in the ileum, in one case this is not stated; in another it is vaguely described as being in the "lower part" of the ileum. In the cases in which it is accurately given it varied between four feet above the valve and two inches above it, as in the present case. Eight times it occurred at twelve inches from the valve, or within that distance. In the perforation four feet above the valve the accident occurred in a relapse, and on the fortieth day from the beginning of the first attack. The perforation, although absolutely high up, was not so relatively, for it occurred within a foot of the primary cicatrized ulcers.

The insidious manner in which perforation often occurs is shown by the fact that in five of the twenty cases the date of the accident was not determined, owing to the absence of explosive symptoms. In the remaining fifteen cases it occurred at different periods,—the earliest being on the seventh day, the latest in the seventh week,—and this irregularity affords a strong proof that some extraneous circumstance, something not essential to the disease, is the cause of this accident.

This something I believe to be peristalsis, principally.

The frequency of hemorrhage in cases of perforation is very striking, this hemorrhage occurring before, at the time of, or after the accident. I cannot give the exact ratio of cases of perforation in which hemorrhage occurs, as I have not tabulated it, but it is large. Taken in connection with the cases in which hemorrhage occurs without perforation, this complication is to be regarded as a premonitory symptom of that accident, and prophylactic treatment accordingly instituted.

The hemorrhages occurring in connection with perforation are generally profuse, as no large arterial twig is eroded until the ulcer has nearly perforated. In speaking of hæmatemesis as a symptom of gastric ulcer,—and the statement is here almost equally applicable,—Leube says, "The most copious hemorrhages naturally occur from erosion of a large vessel, a symptom which can occur only when the ulcer, not necessarily a large one, has perforated all the tissues of the stomach." I would amend this statement by the addition of the word "almost," so that it would read, "when the ulcer has perforated almost all the tissues," for copious hemorrhage from the bowel in typhoid fever is frequently recovered from, and perforation almost never.

The time elapsing between the first symptoms of perforation and death could be determined in fourteen cases, and varied between a few hours and fifteen days, as follows: in four cases, within twenty-four hours; in five, within forty-eight hours; and in the remainder, three, four, five, seven, and fifteen days after.

Dr. ROBERTS said there had been no reference to perforation of the intestines occurring in walking cases of typhoid fever. He was able to recall the case of a man who presented himself at the Pennsylvania Hospital complaining of abdominal pain; he had been sick about twelve days, and, having no passage from the bowels for about a week, had the night previous to coming in the hospital taken a purgative. After being admitted into the hospital, more marked symptoms of peritonitis set in. Dr. Meigs, who was on duty at the time, thought the case would prove to be one of walking typhoid fever. The patient died in six days, and the autopsy showed perforation of the intestines, about six inches above the ileo-cæcal valve, with general peritonitis, which was thought at the time to be due to the purgative.

Dr. HENRY replied that he had, two or three years previously, reported a case of walking typhoid fever, which would be found in the Transactions. The man, a patient in the Episcopal Hospital, during his illness continued daily to walk about the wards. His only complaint was of vertigo. Typhoid fever was suspected, and he was kept on liquid diet. Death occurred from perforation of the ileum.

Cirrhosis of the liver. Presented by Dr.
F. H. GROSS.

On the 22d of last month (October) I was requested by a medical friend to see a patient, with the object of performing the operation of paracentesis abdominis; but, as the gentleman alluded to was himself ill, I did not have the opportunity of meeting him at the bedside of the patient. The latter I found to be a German, aged 42 years, and by occupation a dealer in shoe-findings. He was greatly swollen from effusion into the peritoneal cavity, and from anasarca of the lower limbs and scrotum. There existed also a reducible umbilical hernia of the size of a large fist. The urine was high-colored, not scanty, but deposited a copious sediment of lithates. He had felt ill at irregular periods for a year or so, and during that time occasionally consulted a physician, but was not confined to his room and bed until about five weeks prior to my first visit. During the earlier stages of his disease he is said sometimes to have had an icteroid appearance, and about a month before my seeing him a marked attack of jaundice, but this had entirely disappeared. So far as I could learn, the real nature and seat of the disease had not as yet been made out. The gentleman at whose request I saw the patient, and who, on account of his own temporary illness, felt induced to relinquish the case, had been in attendance only a short time.

In regard to the patient's habits I learned that he drank beer regularly, and occasionally light wines, and at times, when suffering from depression of spirits, which is said not to have been very frequently, he would indulge more freely in beer, but was never addicted to the use of the stronger alcoholic liquors. Though not markedly emaciated, he was now very weak, mentally as well as physically. His memory being unreliable, he was able to give only a vague account of the progress of the disease, or of the train of symptoms that had manifested themselves. I regret, therefore, that the history of the case is necessarily incomplete. We may assume, however, that it did not differ materially from the generality of cases of cirrhosis of the liver uncomplicated with organic disease of other vital organs. He had often complained of a general sense of discomfort and of dull pains in various parts of his abdomen, and during the past summer felt that this part of his body was enlarging. At that time there was already some dyspnoea, especially on making any bodily exertion. He was then told that he had the asthma, and later on that he was getting the dropsy. Whatever doubt there may have been concerning the former, the latter was certainly true, as I drew off at my first visit, by the operation of tapping, nine quarts of pale-yellow and slightly turbid serum.

In regard to the diagnosis, I have to say

that at my first examination of the patient, and more especially after the drawing off of the peritoneal effusion, when a more satisfactory physical exploration of the abdominal as well as the thoracic viscera could be made, and from the hardened feel of the liver below the edge of the ribs, I suspected no other disease than cirrhosis of that organ. And when some days later an examination of the urine showed no trace of albumen, and a renewed exploration of the organs of the chest revealed no organic disease there, I felt strengthened, by a process of exclusion, as it were, in my original inference, and the existence of cirrhosis of the liver was as clearly established as could be without positive demonstration.

The prognosis, as a matter of course, was unfavorable, and the treatment only palliative. Upon the administration of diuretics and benzoic acid with borax, the secretion of urine became more copious, of lighter color, and ceased on cooling to show any sedimentary deposits. Such tonics, and also as generous a diet as the stomach would tolerate, were allowed. From the opening made by the trocar, fluid continued to ooze for about eight days, which was absorbed by the application of sponges and cloths. The swelling of the abdomen was, therefore, kept down, and the anasarca of the lower extremities and scrotum disappeared. The debility of the patient was, however, steadily progressive, and he finally died of exhaustion on the 8th of November.

Autopsy, about thirty-six hours after death. —On opening the abdominal cavity the liver was noticed at once to be the seat of disease. It was hardened, and had a firmer feel than in the normal state. Its color was of various tints of yellow, and it presented upon the greater part of its surface numerous rounded elevations of different sizes, giving the so-called hob-nail appearance. The corresponding depressions indicated the existence of fibrous tissue, compressing the lobular structure. Its weight was four and a quarter pounds. The gall-bladder contained a quantity of dark bile of a thick consistence, which imparted a sandy feel between the thumb and fingers. The kidneys were of normal size, and appeared to be entirely healthy in their structure, as did the other organs of this cavity. The thoracic organs were healthy. To Dr. J. Collins, who assisted at the *post-mortem* examination, I predicted the finding of a cirrhotic liver.

The following is a note from Dr. Seiler of the microscopic examination:

"A section of the liver made with a Valentine knife, and stained with carmine, shows large bands of connective tissue surrounding the lobules, while the liver-cells were mostly in a state of advanced fatty degeneration, many of them having been supplanted by fat-globules."

Dr. SEILER said he wished to show, in con-

nection with cirrhosis of the liver, a microscopic section made from the liver of a cat, in which could be seen the physiological changes occurring in this disease. There is a very decided increase of the connective tissue, forming wide bands between the lobules of the organ; the liver-cells, however, are found to be perfectly healthy; there is not any fatty degeneration observable. Dr. S. thought this was a demonstration of an inflammatory condition of the liver causing cirrhosis, without any fatty degeneration; also that we may have this pathological change in the organ without intemperance or syphilis being the exciting cause.

Tumor removed from the parotid region. Presented by Dr. JOHN H. PACKARD. Notes by Dr. ROBERT M. SMITH.

Robert J. Ray, æt. 58; Irish; by occupation a ship-carpenter, was admitted to the male surgical ward of the Episcopal Hospital, October 26, 1877. Stated that nearly thirteen years ago he noticed a small, firm, painless nodule forming in his left cheek, just above the angle of the jaw. It was freely movable, and gradually increased in size, until it became as large as a hen's egg, but never interfered at all with the motions of his jaws, or gave him any pain, until about two weeks ago, when he suffered from a severe shooting pain in the tumor and left side of his face. He then noticed that his face was drawn to the right side, and, as he says, was without sensation; the left eye also, at this time, "became crooked."

When admitted to the hospital, there was a firm tumor, slightly but distinctly movable, occupying the whole of the left parotid region, and extending under the ramus of the jaws, not sensitive to pressure. Paralysis of the muscles of expression of left side, visible even when the face is at rest; no loss of sensation detected; paralysis of the superior oblique muscle of left eye; tongue protruded straight; no interference with movements of jaws.

Tumor removed October 29, 1877. It was found to lie directly upon the sheath of the carotid artery, implicating, to some extent, the parotid gland, the duct of which had to be divided. No hemorrhage occurred during the course of the operation. Wound closed, and dressed with lint soaked in laudanum; morph. sulph. gr. $\frac{3}{4}$, hypodermically. Liquid diet.

November 3.—Wound looks remarkably well; no pain; ligature came away; stitches removed; placed on soft diet. Says he feels very well, and wants to go home.

November 4.—Had a slight chill. Quinia, gr. vi.

November 6.—Cough; pain in the chest; physical examination revealed pneumonic consolidation of anterior portion of lower lobe of right lung. Ordered morphia cough mixture, p. r. n.; jacket poultice; quin. gr. iij, t. i. d. Sputa tinged with blood, and very tenacious.

November 7.—Tr. digitalis, gtt. xv, four times daily; very little febrile reaction; no extension of pneumonia.

November 22.—Wound of operation almost wholly healed. The pneumonic symptoms nearly gone.

Report of the Committee on Morbid Growths.

—"The tumor removed from the parotid region presented by Dr. Packard, and referred for examination to the Committee on Morbid Growths, is found to be composed of different histological elements, constituting several varieties of new formations. In circumscribed localities are seen epithelial cells, grouped together irregularly within alveoli, formed of fibrillar connective tissue, constituting carcinoma,—variety scirrhus. In other parts of the growth are seen large round cells, which contain a large granular eccentric nucleus. The cells appear to be imbedded in a hyaline matrix, through which run a few isolated fibres of fibrillar connective tissue, characteristic of cartilaginous tissue. The remaining and greater bulk of the tumor is seen to consist of spindle, stellate, and oval cells, with a fibrillar connective-tissue intercellular substance. Here and there the cells form a reticulated tissue, in the meshes of which is seen a structureless substance, made granular by the employment of the reagents used in preparing the section; a myxomatous tissue. The blood-vessels throughout the growth are very distinct, and have their walls somewhat increased in size by concentric layers of fibrous tissue. The new formation may be considered a carcinoma myxomatodes, containing cartilaginous tissue.

"December 13, 1877."

Pneumonia of the apex, with unusual physical signs. By Dr. JOHN GUITÉRAS.

A. W., æt. 60; tailor; German; admitted to the Philadelphia Hospital on the evening of the 15th of November, 1877. Night nurse did not think he was very sick. In the morning he was found at the window trying to get some air. When my resident, Dr. Musser, saw him, he was sitting by his table, leaning his head on it, and suffering with much dyspnoea. He was ordered to bed. He had fever, cough, no appetite, and the bowels were constipated. He had been sick about ten days, though at no time in bed. Has always been a very healthy man.

Inspection showed a marked prominence of the front of the right chest, especially towards the apex; *pulspation*, a complete absence of vocal fremitus. At the level of the folds of the axilla the right chest measured two inches more than the left. Flatness upon *percussion* extended from the apex to the lower margin of the middle lobe of the lung in front, and was readily traced backwards and upwards along the side of the thorax in the direction of the line of separation from the lower lobe. On *auscultation*, the râles of œdema were found to be very abundant over the left lung and in-

ferior lobe of the right. Over the area of dullness the same râles were heard, but appeared distant; the lung itself gave no sound; there was no bronchial breathing, no vocal resonance. A forced whispered expiration gave rise to a feeble and distant blowing sound, hidden somewhat by the tracheal gurgling, yet harsh and characteristic of consolidation. He died the next night.

Autopsy.—No emaciation or discoloration of the skin. The enlargement of the right upper segment of thorax is apparent to the eye. On removing the sternum the upper and middle lobes are found consolidated, and bulging out and towards the left about one inch beyond the median line. No adhesions of the left pleura. Recent adhesions of the right, and an effusion of about four ounces of serum, with shreds of lymph floating in it.

On removing the lungs, the two affected lobes were found to present the same volume as the left lung and the lower lobe of the right; these latter portions were œdematous. The upper lobes presented the grayish marbled appearance of gray hepatization, exuding the characteristic reddish, purulent fluid. The tissue breaks down readily on pressure. In the middle lobe there are some spots of red hepatization. Except in the very root of the lung, the bronchial tubes are collapsed or filled with pus. Healthy portions of lungs weighed two pounds; the diseased, four and a half pounds. There was an ante-mortem clot in the right heart.

The other organs were healthy.

Remarks.—The lack of treatment, the age of the patient, the localization of the pneumonia, contributed to the fatal termination. Though pneumonia of the base is so much more frequent than pneumonia of the apex, yet I believe I have seen as many post-mortem specimens of the one as of the other.

The interest of the case is found in the physical signs. These clearly pointed to a circumscribed pleuritic effusion. I diagnosed pneumonia from the direction of the line of dullness alone. Sufficient attention is not paid to this very important element of diagnosis,—viz., the position of the inter-lobar lines. We all know how frequently they are boundary-lines for pathological processes.

The physical signs here were due to the absolute absence of air from the affected lung. The bronchial tubes were not patulous; even the larger ones were filled with thick inflammatory débris, thus interfering with the production of blowing breathing, increased vocal resonance and fremitus. The same factor entered with the pressure of the swollen lung against the chest-walls, in the production of absolute flatness.

DEODORIZED IODOFORM.—Dissolve in ether and apply to the diseased parts. On evaporation an odorless coating of iodoform is left.—*L'Union Médicale.*

REVIEWS AND BOOK NOTICES.

THE ELEMENTS OF THERAPEUTICS. A CLINICAL GUIDE TO THE ACTION OF MEDICINES. By Dr. C. BINZ, Professor of Pharmacology in the University of Bonn. Translated and edited by Edward I. Sparks, M.A., M.D. Oxon. New York, Wm. Wood & Co., 1878.

This is a large duodecimo of three hundred and fifty pages, the joint fruit of the labor of its German author and its English editor. The reputation which Prof. Binz has made by his researches upon quinia and other drugs had prepared us warmly to receive this his latest intellectual offspring. A close examination has, however, yielded very unsatisfactory results and much disappointment. A very large portion of the space is occupied with useless or comparatively useless details concerning the "preparations," whilst the bare physiological outlines are frequently more dogmatic or confusing than correct. Thus, in the article upon cantharides, less than a page is occupied with a discussion of the *materia medica*, physiological action, and therapeutic uses of the drug, more than a page with the details of the preparations. This is, however, of small moment compared with the gross errors which so abound in the sections on physiological action. This branch of pharmacology is of course only in its early stages, but there are already many settled points, and the teacher who, through indolence, carelessness, or natural perversity, fails to recognize, or distorts and misplaces, these landmarks, is most culpable, as bringing "physiological therapeutics into disgrace" by abetting the idea that it is all a "shaking bog" of doubt and guesses. We have not space to point out even a large proportion of the errors, but must be content with a few examples. On page 178 is the extraordinary statement that the antiphlogistic effect of calomel "is most probably chiefly referable to a reduction of abnormal temperature by the calomel." On page 210, speaking of the physiological action of quinia, he says, "The action of quinia is not a specific one in the ordinary sense; for other bodies, like alcohol, the acids, the ethereal oils, and most of the officinal vegetable bases, agree with it in their essential properties," etc. On page 229 we are told that vegetable acids render the urine alkaline! on page 193, that chlorate of potassium is a powerful oxidizing agent, acts as such, and that large doses "often seem to cut short diphtheria;" on page 54, that the action of ergot upon the vessels is independent of the vaso-motor centres. We read, also, that digitalis arrests the heart in diastole; that the action of ether differs very slightly from that of chloroform; that "no one has as yet clearly proved that counter-irritation is of real use in diseased conditions," etc.

Not long since, at the University some

papers flying about the grounds attracted our attention, and on examining them we found that they were sentences from the latest magazine article of a noted Philadelphian, which had been used as exercise papers by the students of rhetoric to "point out the errors of composition in." We would commend the work before us as affording abundant opportunity for student-drilling to the professor of the art of book-making.

Different subject-matters are interjected into one another like cannon-balls into heaps of ruin. An example, p. 178, is an italic heading "Uses," followed by paragraph No. 1, then another heading "Preparation," with one paragraph, then paragraph No. 2 a direct continuation of subject-matter of No. 1, then a series of paragraphs on "Uses," and finally "Preparation" again.

An error, most confusing for the student, which we trust young book-makers will sedulously avoid, is incorrectness in official names, a very large proportion of the American official names being incorrectly given; also the strength of the American preparations is very frequently, if not very generally, incorrect.

Finally, the therapeutics of the work do not always agree with the prejudices of this locality,—as when we are told that (p. 178) one of the uses of calomel in a single large dose is to cut short typhoid fever; also, as when the antiperiodic action of quinia is either unknown, disbelieved, or ignored, not a word being said about the use of the drug in malarial diseases!

The name of Prof. Binz may carry his work to a successful market, but certainly his reputation in America will not be advanced thereby.

ON THE USES OF WINES IN HEALTH AND DISEASE. By FRANCIS E. ANSTIE, M.D. Macmillan & Co., London, 1878.

This is a reprint of the well-known and very valuable papers upon the subject published in *The Practitioner* by the late Dr. Anstie. It should be closely read by every practitioner of medicine who has not already performed this pleasing duty. The information in it is both novel and satisfactory, and is also of the most practical character.

GLEANINGS FROM EXCHANGES.

INCUBATION OF HYDROPHOBIA (*The Medical Press and Circular*, December 26, 1877).—In the special reports now being published on the nature of rabies, after considering the existing evidence in regard to the incubative period, the following conclusions are arrived at:

1. The duration of the latent stage has an indefinite, though to a certain extent a regular, course, for the majority of cases collected, not

only by English but also by foreign observers, prove that the interval has generally been from one to three months.

2. That age influences the incubatory period, it being shorter in young than in old people. Fleming tells us that from an estimate of ages, from three to twenty, and from twenty to seventy-two, it has been found that for the first group there was a mean period of forty-four days, and for the second of seventy-five days.

3. Having such an almost accurate idea of the average period of incubation, the physician, whilst not neglecting all reasonable precautions, can hold out reasonable hopes to his patient of an almost perfect immunity after three months, and an increasing hope with every month that passes, so that, after a year, he may afford a scientific certainty of the patient's safety. In other words, all reputed cases of rabies occurring after a year must be looked upon with suspicion, and should the symptoms be simulative, other causes must be assigned, as re-inoculation, etc.

THE TREATMENT OF DIPHTHERIA (*The Medical Record*, January 12, 1878).—Dr. C. E. Billington, visiting physician to Demilt Dispensary, records the methods and results of his treatment of diphtheria during the last three years. They are briefly as follows. He employs three formulæ, which he alludes to as Nos. 1, 2, and 3.

No. 1.—*Iron and Glycerin Mixture.*

R Tinct. ferri chloridi, f3i-f3iss;
Glycerinæ,
Aquæ, aa f3i.

No. 2.—*Chlorate of Potash Mixture.*

R Potass. chlorat., 3ss-3i;
Glycerinæ, f3ss;
Liquor. calcis, f3iiss.

No. 3.—*Spray Mixture.*

R Acidi carbolic, ℥xv;
Liq. calcis, f3vj.

(To be used with a small hand-atomizer.)

He then gives the following rules for treatment:

I.—Give a teaspoonful of No. 1 and of No. 2 alternately, every half-hour, except at night, when the patient may be allowed to sleep for an hour or two at a time.

II.—Spray the throat with No. 3 for several minutes at a time whenever the above mixtures are given,—that is, every half-hour. It is essential that the nurse be carefully instructed in the proper method of doing this. The mouth must be opened widely. When the child is too young to do this, the spraying must be omitted.

III.—When there is nasal implication, the nose should be thoroughly syringed out with warm or tepid salt water, once, twice, or three times a day. I have lately employed no other agent. It should be done with the patient's head inclined forward, after the method which is described in my above-mentioned paper. It is very important that the physician know how to do this well, and, generally, *do it himself*.

I have always used a two-ounce hard-rubber ear-syringe. It is absolutely essential that this have a suitable nozzle, which is not always the case.

IV.—Do not (as a rule) apply any brush or swab to the throat. I sometimes throw a drachm of No. 1, with a syringe, directly against the affected surface in the throat.

V.—Do not (as a rule) give any quinine or other unpleasant medicine to children. This rule is of great practical importance.

VI.—Do not (as a rule) give alcoholic stimulants. Call this rank heresy as the majority will, it is none the less true that your success will be greater without them. There are, of course, a few exceptions; those are the cases where a child that cannot be induced to take other nourishment will take weak milk-punch or egg-nog.

VII.—Nourish the patient with an abundance of cold milk, given frequently, to which a little lime-water may often advantageously be added. This rule is of the greatest importance. Even a bad case may be regarded favorably while the patient continues to take nourishment well. When the stage of extreme exhaustion has been reached in bad cases, juice squeezed from beef-steak is valuable.

By perseverance in this plan of treatment, and by the strict avoidance of all topical applications, Dr. Billington claims to have treated nearly one hundred and fifty cases of diphtheria with a mortality of less than ten per cent. He also publishes corroborative letters from a New Brunswick physician, and says that during the last year he has adopted the plan of having the cases seen and the diagnosis verified by competent, disinterested, well-known witnesses.

DILATION OF THE URETHRA BY THE URINE ITSELF (*The Medical Record*, January 12, 1878).—Towards the end of the last century, Brunninghausen recommended this method of dilatation, which he claimed to be more easy and simple than that by bougies. To practise it the patient must simply compress lightly the urethra behind the glans with his fingers whenever he wishes to urinate. The pressure must be such that the urine can only escape slowly and after having remained some time in the canal; as a necessary result the canal will be more or less dilated through its entire length, in the constricted as well as in the healthy portion. If this be repeated every time the urine is voided, the same effects will gradually be produced as if bougies had been used, while at the same time the inconveniences of the latter are avoided. M. Bérenger-Férand has employed this method in his practice, and the following are the conclusions he has arrived at with regard to it:

1. Dilatation of the urethra by the urine, repeated at each urination for a long time after a prolonged attack of gonorrhœa, seems to prevent the formation of strictures.

2. In cases of moderate strictures it seems to have restored the normal calibre of the canal, or at least to have restored the calibre sufficiently to render micturition easy.

3. After the operation of urethrotomy it will perhaps prove useful to prevent, or at least to retard notably, the return of the constriction.

4. In cases of varicose dilatations at the neck of the bladder or in the membranous portion of the urethra, it appears calculated to be serviceable.

5. It seems to prove useful also in the cases of partial or total hypertrophy of the prostate in old men. In such patients the first drops of urine, which are emitted with so much difficulty and slowness, will serve effectually to fill the canal if the meatus be kept closed. When the ordinary calibre of the canal is once re-established in this way, the remaining contents of the bladder can be evacuated easily. The method has this great advantage, that it does away with the difficulty of emission after the first drops have escaped from the bladder; when it is not employed, the difficulty of emission persists during the entire act; the micturition, moreover, becomes intermittent, and the bladder is incompletely emptied, as a result of which, frequent desire to urinate is soon experienced.

METHODS OF RENDERING THE FEMALE URINARY BLADDER ACCESSIBLE, AND OF PROBING THE URETER IN WOMAN (*The Boston Medical and Surgical Journal*, January 10, 1878).—The steps for the accomplishment of dilatation of the urethra consist of three acts: *First*, the slitting of the margin of the urethral orifice, this being the narrowest and most unyielding part of the urethra. This is done by lateral incisions in the upper margin of one-fourth centimetre in depth, and one downward one-half centimetre in depth. *Second*, dilatation of the urethra with plugs. Hard-rubber plugs or plug-shaped specula should be used, as they give the force applied more equally and with less danger of tearing or bruising the mucous membrane at the narrowest points, as under the pubic arch. *Third*, the passing of the finger through the urethra into the bladder, and the examination of the interior of the latter. This is very much aided by using the forefinger for the examination, at the same time passing the middle finger into the vagina and, with the other hand above the pubes, pressing the fundus of the bladder down upon the exploring finger. The patient being anesthetized, all the above-mentioned three acts may be accomplished in a very few moments. The indications for this means of dilating the urethra are: 1. For the diagnosis of the diseases of the mucous membrane. 2. For the diagnosis of foreign bodies and stones, which can be found when they are very small. 3. For the extraction of such bodies. 4. For the purpose of applying strong caustics in cases of inveterate catarrh

of the bladder. 5. For the cure of fissures of the urethra. 6. For the diagnosis of defects in the vesico-vaginal septum when the vagina is closed. 7. For the diagnosis of the seat and extent of growth of tumors in the vesico-vaginal septum. 8. For the extirpation of tumors, especially of papillomas, starting from the mucous surface of the bladder. 9. For the discovery and subsequent extraction or excision of renal calculi from the vesical part of the ureter. 10. For the opening of hæmatometra, when puncture is impossible or too dangerous, between the bladder and the rectum; as, for instance, when there is a congenital deficiency of a part or the whole of the vagina. 11. For the cure of colo-vesical or entero-vesical fistula, by cauterizing the ostium vesiculi of the fistula.

The probing or catheterization of the ureter may be accomplished as follows. The urethra having been dilated, the finger is passed through it, and about one inch beyond the neck of the bladder it finds the ligamentum interuretericum, which is more prominent on either side than in the centre. About one-half to three-quarters of an inch from the median line, on the surface of this ligament, are the orifices of the ureters, which are imperceptible to the touch; and it is, therefore, necessary that this point of the ligament should be fixed with the finger, and the probe or catheter passed upon it upward and outward in the direction of the ligament. By slightly pushing, we try to introduce the probe into the orifice of the ureter. If it does not enter, it will be arrested by the walls of the bladder; but if it does it can easily be pushed on in an upward and outward direction, and we feel the probe covered, for a few centimetres, by mucous membrane.

TREATMENT OF FRACTURE OF THE SHAFT OF THE FEMUR (*The Saint Louis Medical and Surgical Journal*, January, 1878).—Dr. Edward Borck, after deprecating the use of any of the various long splint and extension apparatus which require a patient with fracture of the femur to be kept in a dorsal position, with the limbs straight and the shoulders low, describes his own method of treatment as follows. Put the patient on a firm mattress; elevate the foot of the bed three or four inches; elevate the shoulders also even as much as the semi-sitting posture; place the fractured thigh upon a double-inclined firm, yet soft, pillow, the foot against a board or pillow; the body and the leg will make all the extension and counter-extension needed. Sometimes it is necessary to place along the inside of the thigh, below the fracture, an adhesive strip, two and a half or three inches wide, forming a loop at the knee and running up again on the outside. A piece of plaster or bandage should encircle the limb to hold the strip in place; then fasten a post at the foot of the bedstead, not opposite the foot of the injured limb. If it is the right leg,

put it a little to the left of the median line from the umbilicus. A roller is fixed into the post, and a cord is fastened to the loop, which extends from the knee; the cord runs over the pulley in an oblique direction, and must pass on the inside of the great toe; a weight is hung to this of five or ten pounds, and is increased if needed; or, simply tie the cord to the post. Here the extension, if wanted, is direct from the thigh, and a great deal more force can be employed than from the leg, but, in general, it is not wanted. If the patient is very restless, employ splints of wood or reed, one-half to three-quarters of an inch wide, and the proper length, glued to strong cloth, properly and accurately fitted and buckled or pinned. One anterior and two side splints of felt or leather would answer. Dispense with the perineal band altogether.

MISCELLANY.

AN EPIDEMIC TRACED.—Dr. Russell has just published a brilliant report on the epidemic of enteric fever which has been prevalent in the west end of Glasgow and the west end suburbs of Hillhead. In a picturesque situation, on the banks of the Avon, stands a farm, whose arrangements are such as to favor the contamination of the products of the dairy. In this farm a son sickened with enteric fever on December 1, a servant-girl on December 20, and another boy on December 27. The work of the dairy was carried on by persons who attended the patients. From this farm there were sent daily twenty-five gallons of milk to Messrs. Semple and Wilson of Hillhead, and they passed on eight gallons to Messrs. Morrison. The seventeen gallons retained were distributed to families in Hillhead and the west end of Glasgow, partly to wholesale and retail customers. The immediate result was an epidemic of enteric fever, almost entirely among the customers of Messrs. Semple and Wilson and Messrs. Morrison. The manner in which the disease picked out the persons using infected milk is most graphically shown by one or two examples appended by Dr. Russell, which we may quote:

"In Hill Street (Garnethill) there are seven families supplied with suspected milk, of whom three are infected, and a hundred and eighty-one supplied otherwise, not one of whom is infected. In Berkeley Terrace there is one family supplied with suspected milk, which is infected, and thirty-seven otherwise supplied, not one of whom is infected. In Royal Terrace there is one family supplied with suspected milk, which is infected, and twenty-eight which are otherwise supplied, not one of whom is infected. In Lynedoch Crescent there are two families supplied with suspected milk, of whom one is infected, and fifteen

otherwise supplied, not one of whom is infected. In Park Street East there are five families supplied with suspected milk, of whom one is infected, and twelve otherwise supplied, not one of whom is infected. In Park Circus there are nine families supplied with suspected milk, of whom two are infected, and twenty-seven otherwise supplied, not one of whom is infected. In Woodlands Terrace there are seven families supplied with suspected milk, of whom five are infected, and fourteen supplied otherwise, not one of whom is infected. In Park Gardens two families are supplied with suspected milk, one of whom is infected, and four supplied otherwise, not one of whom is infected. In Clairmont Terrace there are seven families supplied with suspected milk, of whom three are infected, and five supplied otherwise, not one of whom is infected. In Woodside Crescent there are four families supplied with suspected milk, one of whom is infected, and thirteen supplied otherwise, not one of whom is infected. Another area of infection is amongst the students of the University, who, on the 21st December, were dispersed over the country for their Christmas holidays. There are now some absentees from illness, and I have obtained the names of seven of these who have already been discovered to have enteric fever. Of that small number three are now dead,—at Kilwinning, at Langloan, and in Islay. The refreshment room in the University was supplied with milk by Semple and Wilson. It was largely patronized by the students, and those men are known to have partaken of the milk."

Dr. Russell may well remark that in this epidemic we have as clear an experiment performed for us as in any of the demonstrations of the chemist's laboratory.—*British Medical Journal*.

EXCISION OF THE LARYNX.—The man on whom Dr. Foulis of Glasgow performed the operation of excision of the larynx was exhibited at the meeting of the Medical Society of London, on Monday evening last. The artificial larynx, devised by Gussenbauer for the subject of Billroth's first operation of the kind, in 1873, was also shown. The apparatus used in Dr. Foulis's case is a modification of that of Gussenbauer. It consists of two tubes, one of which goes downwards to the trachea, and the other upwards to the mouth. The patient, we are informed, can talk in a whisper without these tubes; but when a reed-plate is slipped into a groove in the lower tube, a resonant sound is produced, which is modulated into letters and words by the mouth. The articulation with or without reeds is perfect. The reeds are made of metal, vulcanite, ivory, horn, etc., and the patient himself is fond of making reeds which give his voice new and surprising tones. The voice is a monotone, varying in *timbre* according to the reed used. The sound-waves

of the patient's voice on König's mirror were similar to those of other voices, as was shown by Mr. Ward with a mirror lent by Mr. Spottiswood.—*British Medical Journal*.

SUICIDE OF AN ENGLISH DOCTOR.—A short time ago, as Dr. Radcliffe, who was suffering from mental aberration, was being conveyed from Hassan Yoort to Tiflis, under the charge of a Russian military surgeon, he contrived to effect his escape and commit suicide. At the official inquiry held on the following day at the Tsalkanski Station, a district doctor stated that during the post-mortem examination he had extracted from the head of Dr. Radcliffe a rifle-bullet, which had penetrated the skull sufficiently deep to cause insanity, though not death. The injury had been inflicted while the doctor was attending the wounded on one of the battle-fields of Armenia.—*The Globe*.

DOCTORS' BUTLERS.—We heard an opinion expressed some few years since by an American, who had travelled to England for medical advice, and who, *more Americano*, had taken it tolerably freely in all quarters, that "the London doctors were a very nice set of men, but as for their butlers they were as proud as Lucifer." The *World* last week hinted that these haughty officials were often quite unmanageable without the intervention of the silver talisman, and that in many cases they were, as it were, the absolute proprietors of their masters' time. It is probable that our contemporary has made the most of the fact that servants are occasionally open to the influences of a "tip," but the subject is, nevertheless, one which is not unworthy of serious consideration. We should imagine that there ought to be no difficulty in so arranging to see patients that the butler should have very little chance of a voice in the matter. A doctor whose butler gets the upper hand may not unreasonably expect to see his practice dwindle.—*Lancet*.

The following, according to an exchange, is the result of the measurement of over half a million of men as regards height and nativity. The mean height of the American Indian is 67.934 inches; the American white man, 67.672; Scotch, 67.066; English, 66.575; Russian, 66.393; French, 66.277; Mexican, 66.110.—*Boston Medical and Surgical Journal*.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM JANUARY 27 TO FEBRUARY 9, 1878.

WATERS, W. E., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at San Antonio, Texas. S. O. 17, Department of Texas, January 23, 1878.

PAULDING, H. O., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Leave of absence extended three months. S. O. 19, A. G. O., January 26, 1878.

TURNILL, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty as Post-Surgeon at San Antonio, Texas. S. O. 17, c. s., Department of Texas.

PHILADELPHIA, MARCH 2, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURES ON FRACTURES.

Delivered in Bellevue Hospital, New York,

BY FRANK H. HAMILTON, M.D.

Reported by P. BRYNBERG PORTER, M.D.

FRACTURES OF THE SHAFT OF THE FEMUR IN CHILDREN.

GENTLEMEN,—When I was speaking to you upon the subject of fractures of the femur in the adult, I should have liked to pass directly on to the consideration of the same class of fractures in children; but, as there was no case of such injury in the hospital at the time, I thought it best to postpone my remarks upon the subject until I should have a patient to show you for the purpose of illustrating the treatment. I have now waited a considerable time, however, and, unfortunately for our purpose, there is still no child with a broken thigh in our wards; so I have concluded to present the subject to you to-day, and, by the promise of a new doll, have prevailed upon a very nice little girl, who is suffering from another affection, to give her consent to have the method of treatment demonstrated upon her person. As I intimated in my first lecture, I shall have to speak of certain peculiarities which characterize fractures of the shaft of the femur in children, and which make them different from the same kind of fracture in the adult.

In the first place, then, such a fracture in the child is always transverse, or nearly transverse, while in the adult, you will remember, it is always oblique, and not infrequently to an extremely marked degree. Secondly, it is not only transverse, but it is of a denticulated character. It affords a good example of what is known as the "green-stick fracture," a name derived from the resemblance of the ends of the fragments to the denticulated surfaces of a freshly-broken stick, such as I show you here. This denticulated character, however, is not so marked in fractures of the femur as in some others, those of the clavicle and radius, for instance; and the several degrees of green-stick fracture, I may say, would be very well represented by

fractures of the clavicle, radius, and femur respectively. While in fracture of the clavicle in the infant the bone is rarely broken off entirely, this is commonly the case in fracture of the thigh. In this respect it resembles that in the adult, the fragments sometimes slipping quite past each other. Three degrees of green-stick fracture have been described:

In the first the bone is bent, but resumes its original shape. This was very fully illustrated in a series of experiments upon the bones of animals, which I published a number of years ago.

In the second the bone is bent and remains in this condition.

In the third the bone is not only bent, but broken off, and the fragments remain separated.

So much for the pathology of the accident.

Let us now turn our attention to the indications for treatment. In the adult, as I endeavored to impress upon you, the first indication is to avoid shortening, by overcoming the action of the powerful muscles which cause the fragments to override each other. In children, on the other hand, the overcoming of the action of the muscles is a point of secondary importance. The great indication in them is to prevent the deformity resulting from bending at the seat of fracture.

These are the only indications present:

First. To prevent bending.

Second. To prevent shortening.

Not infrequently the second indication does not exist at all, there being no danger of shortening, on account of the transverse character of the fracture and the easy adjustment of the fragments. In any given case the essential question to ask is, How shall we prevent bending? and this has always been the stumbling-block of surgeons.

As in almost all other fractures, of course, some sort of splint has been resorted to, but the trouble here with splints and the bandages necessary to keep them in position is, that they make pressure upon an exceedingly delicate skin, and that underneath this tender skin is a very large amount of adipose tissue, which yields very readily to any compressing force. As a consequence, the circulation is greatly interfered with, and long before the end desired (the union of the fragments of

bone) is accomplished this interference becomes so serious that the most disastrous results are liable to follow. Another reason why sloughing is apt to occur is, that the urine soils the dressing when the child is too young to understand the situation, and this, of course, causes excoriation. Hence we find that almost all cases of sloughing occur in children, adults not laboring under the same disadvantages. There are other reasons, also, why it is so difficult to treat fractures of the femur satisfactorily in children, and the following summary includes them as well as the reasons just mentioned:

1. The delicacy of the skin.
2. The abundance of fat.
3. Excoriation from urine saturating the dressing.
4. The fact that the limb is so short (its long and its short axes being almost of the same length) rendering it very difficult to get any purchase for splints.
5. The restlessness of children, who are continually tossing and tumbling about, and so are almost certain to disarrange any form of dressing that may be employed.

Since these difficulties are so numerous and serious, then, how have surgeons been accustomed to overcome them? I can give you very little information on this subject, for you may search surgical literature almost in vain for it. The books do not say much about it, for their authors have found it no doubt a very disagreeable subject; and most of them make no distinction between fracture of the femur in the child and in the adult. Some authorities have treated their little patients by laying the limb over an inclined plane; but this method is of no use whatever. The child invariably slips down out of position, and the fragments consequently become displaced. If you attempt to remedy this by elevating the hips, you are apt to drive the limb up, and so displace the fragments, and you may consider yourself extremely lucky if you should happen to keep the child in some one position for twenty-four or forty-eight hours just at the critical time when union is on the point of taking place. Fractures usually unite rapidly in children, and it may be that in some such brief period as this sufficient union between the fragments may be secured to withstand the strain to which they will be subjected in the future by the constant movements of your restless patient.

Again, plaster of Paris has been used more recently; but anybody who has employed it once will be scarcely likely to try it a second time. I am very sure that it must be a bad plan, and a little reflection will convince you why this should be the case. The plaster must necessarily get wet with urine in young children, and as certainly as it does it will cause excoriation. But even if this could in any way be prevented it would be exceedingly apt to cause excoriation, and even sloughing, as it not infrequently does in the adult. If there is danger of sloughing in the latter, this danger is infinitely increased in the case of the child, on account of the necessity of applying the bandage more tightly in children.

Without further discussion of any other methods, however, I will now pass on to speak of my own plan of treating these fractures. It is at present used very largely in this and other cities in the United States, and Mr. Erichsen informs me that it has been introduced into the London hospitals with great success. I do not claim it by any means as exclusively my own invention, but, like so many of the present improved methods of treatment at our command, it has been arrived at by the combination of the suggestions of various surgeons at different times.

I have, then, only added to and improved upon some of the plans adopted by others. The essential feature of the treatment is a long double splint, but I will describe the whole apparel in detail. In the first place, after the adjustment of the fragments, the fractured thigh is dressed with four coaptation splints, precisely as in the adult, and to render the demonstration less tedious they have already been applied in the case of the child who represents the patient for us to-day. Next a long splint, very carefully padded, is placed on the outside of the limb (extension having first been made), and this is secured by rollers. As it is a troublesome matter to keep the limb straight, and this is so essential an object, the splint must be made long enough to reach to the axilla, and the upper portion of it should be made fast by additional rollers passing around the chest. This is designed to keep the axis of the thigh and leg (including the fragments, of course) in a line with that of the body; and the indication will be fulfilled in this manner, provided there is

no overlapping of the fragments or tendency to shortening. If this is the case, it will be necessary to make extension by means of the weight and pulley, as in the adult (though a traction-force of only two or three pounds is required), and counter-extension by means of a perineal band, only moderately tight, secured to the long external splint. The weight of the body cannot be relied upon for the latter purpose in children, as in adults, and the perineal band answers every purpose perfectly well. This extension and counter-extension is required in perhaps one case out of four. Another very important feature of the apparatus is a second long splint, which is secured to the sound limb and also passed up to the axilla, and the object of this is simply to keep the child quiet, for otherwise it would be constantly tossing about, to the imminent jeopardy of the straightness of the fractured thigh. Great care should be taken to have the knee firmly secured especially, for if it is not the patient will be sure to work the limb loose. Finally, the dressing is completed by making the lower ends of both the long splints fast in a wooden cross-piece. It will be found in practice that children submit with quite good grace to the inevitable, and they are usually perfectly contented after the apparel has been on them for two or three hours. When the bed has become soiled by urine or fæces, the child and the whole apparatus can be lifted on to another one with the greatest facility, and thus the bed can be changed as often as is necessary.

So, you see, we have secured a dressing which fully answers every indication in the treatment of fractures of the shaft of the femur in children, and I assure you that unless you adopt it at the start you will go through a long series of unsatisfactory experiments in the treatment of such fractures, only to meet with disappointment and chagrin at the end.

AN UNUSUAL CASE OF COLLES'S FRACTURE.

The man who is now being anæsthetized has just entered the hospital with what has been pronounced outside a dislocation of the wrist-joint. Dupuytren was of the opinion that dislocation at this joint never occurred; but I believe that I have seen one case of it. On account of the extreme rarity of the accident, however, as well as the absence of its symptoms, I

think we can decide without much difficulty that the injury here is not of that character. It also presents some of the features of Barton's fracture, but I think we shall find, on examination, that it is not that either. Neither is it a simple Colles's fracture, for it was caused in a very unusual manner,—by the patient's falling upon the hand while it was doubled up. Apparently the fracture is an inch and a half above the joint, but in reality it is within half an inch of it. As I hold the arm up, you see that it looks like a Colles's fracture in that the hand is thrown backward, while, contrary to the usual rule in this fracture, it does not fall towards the radial side. This simple throwing back of the hand would be seen if it were a dislocation. Then why, you may ask, is it not a dislocation? Because the deformity commences too high up for that, and is not so abrupt as it would be with such an injury. The lower anterior extremity of the radius is not prominent, and I suspect that we have here a Colles's fracture, with the lower fragment comminuted and its posterior portions thrown out of place, while the anterior portions are not displaced.

In giving anæsthetics in the case of fractures it is essential that the action of the muscles should be completely overcome, or, in other words, that the patient should be entirely paralyzed. The man now being in that condition, I am not able, after a careful examination, to detect anything different from what I did before. You will remember that I told you that we could not always succeed in getting crepitus in Colles's fracture, but in this case, though it is seven or eight days since the accident was met with, I can still feel a little grating, though it is very slight. My first attempt at replacement will consist in pushing the fragment forward, and if that is unsuccessful it will be necessary to make more extension, in which case the fragment will not probably be maintained in position so easily, and some deformity may ultimately result in consequence. You observe that I am now simply pulling the hand forward, and now, having made two successive efforts, I find that the parts are perfectly in line. The diagnosis, therefore, was correct, and it could not have been a case of dislocation.

It only remains, then, to apply the dressing which you saw and which you heard

me describe at my last clinic; and I trust you have not forgotten the importance of having an absence of padding on the palmar splint at the point covering the lower fragment, with an excess of padding at the same point on the dorsal splint. From the ease with which the fracture was perfectly reduced, I have no doubt that we shall obtain as good a result in this case as though it were one of the ordinary "back-door" character.

ORIGINAL COMMUNICATIONS.

REPORT ON ONE HUNDRED AND TEN CASES OF EXTRACTION OF CATARACT BY VON GRAEFE'S PERIPHERIC LINEAR METHOD.

BY M. LANDESBURG, M.D.

THE peripheric linear extraction I have performed, in all essential points, strictly according to the method taught by Von Graefe, which, while acting under him in his clinic, I had ample opportunity to see him practise.

The deviations in the operation as used by me were the following:

1. All operations of cataract have been performed without any assistance.
2. The eyelids have been kept apart by the speculum.
3. No anæsthetics have been administered.
4. Eleven cases of cataract excepted, all have been operated with downward section, for the following reasons:

I fixed the eyelids only during section; when the section was done, but before making the conjunctival flap, I put away the fixation forceps, completing the operation without steadying the eyeball. In upward section I entirely depended upon the will of the patient to look downwards and thus to make accessible the field of operation. But every one knows how dangerous it is to rely during operations upon the obedience of the patient. He is usually unable to follow the directions of the surgeon, partly through confusion and anxiety, partly through awkwardness. Making the section downwards, I rendered myself entirely independent of the will of the patient. The eyeball turns upward of itself after the section is performed, maintaining this position during the progress of the operation. Besides, the downward

section affords this advantage, that any bleeding in the anterior chamber, which may occur in the course of the operation, has a better and easier exit. The objections presented by others against the downward section, *that the wound heals more slowly and with less good effect, and that vision is impaired by the downward coloboma*, I was in no way able to confirm.

While I made the iridectomy I kept the iris-forceps in the left hand and the scissors in the right. In eleven cases I made the iridectomy some time before. These were cases in which one eye was already operated, either with abnormal course of operation or with abnormal healing, or in which the general health of the patient induced me to be particularly careful.

The discision of the capsule was performed according to the known rules.

In removing the lens I pressed with one hand by the Daviel spoon the sclerotic edge of the wound slightly and gently downwards, while with the caoutchouc spoon in the other hand by light pressure and sliding movements over the cornea I endeavored to remove the lens as carefully and thoroughly as possible. After the removal of the lens the pupillary region was examined by oblique illumination.

In many cases of cataract I dilated the pupil by atropia previous to the operation, in other cases I omitted it. Neither the application nor the omission of the atropia seemed to exert any influence on the result of the operation.

When the healing process was normal, the after-treatment consisted in the application of the compressive bandage and in the use of atropia alone. The bandage was not removed until the wound was perfectly closed.

If in the course of healing any inflammatory process took place, atropia was applied oftener and warm poultices were used, likewise leeches and injections of morphia, if the case required. In cases of suppurative iritis I employed acute mercurialization, and in swelling of the lids I touched them with mitigated nitrate of silver.

In cases where the eyes recovered from the operation with membrane in the pupil, I needled the pupillary membrane in the third or fourth week after the primary operation, and only then when the eye was perfectly free from any irritation. In cases of any irritation I delayed the second-

any operation until the symptoms of inflammation were entirely removed.

In cases of double mature cataract I never operated both eyes at one time, but each eye at an interval of from four to five days. But if the first operated eye showed any symptoms of irritation, I postponed the second operation until the irritation had entirely subsided.

The one hundred and ten extractions of cataract were performed as they occurred, without selection, on ninety-five patients, of whom there were forty-seven males and forty-eight females. Of those, fifteen patients were operated on both eyes.

Classified according to the form of cataract, the present report contains:

1. Eighty-one senile cataracts, comprising all primary cataracts in persons from the fortieth year of age upwards.

2. Nine soft cataracts, comprising all primary cataracts in persons less than forty years old.

3. Eleven traumatic cataracts caused by an injury of the eye, in patients of all ages.

4. Nine complicated cataracts. These are cases in which the cataract was either preceded or followed by intraocular diseases, as those of the vitreous, the choroid, retina, and optic nerve. Of these the prognosis is very unfavorable and the result of the operation very doubtful.

Of senile cataract there were operated twenty-nine men and thirty-seven women; of the former, twenty-one right and fifteen left eyes, of the latter, twenty-six right and nineteen left eyes. Of the double operations of cataract seven belong to the male and eight to the female sex.

The ages are as follows: Men: from 40 to 49 years, 3; from 50 to 59 years, 14; from 60 to 69 years, 10; 77 years, 1; 83 years, 1. Women: from 40 to 49 years, 11; from 50 to 59 years, 11; from 60 to 69 years, 12; from 70 to 75 years, 3.

I have classified the result of the operations as:

1. Perfect success, if the vision restored by the operation was greater than the fraction $\frac{1}{10}$.

2. Imperfect success, if the vision was below $\frac{1}{10}$.

3. Loss, if the result of the operation was only qualitative or quantitative perception of light.

According to these principles we have—

a. Of the 29 men:

1. A perfect success in twenty-seven

eyes, with the vision of $\frac{1}{2}$ in 2 cases; $\frac{1}{5}$ in 6 cases; $\frac{1}{10}$ in 5 cases; $\frac{1}{30}$ in 4 cases; $\frac{1}{40}$ in 4 cases; $\frac{1}{50}$ in 4 cases; $\frac{1}{100}$ in 2 cases.

2. An imperfect success in six eyes, with the vision of $\frac{1}{200}$ in 1 case; $\frac{1}{300}$ in 1 case; $\frac{8}{100}$ in 1 case; $\frac{6}{100}$ in 1 case; $\frac{5}{200}$ in 1 case; counts fingers at a distance of 8' in 1 case.

3. Loss of three eyes.

b. Of the 37 women:

1. A perfect success in thirty-nine eyes, with the vision of $\frac{1}{2}$ in 1 case; $\frac{1}{5}$ in 1 case; $\frac{1}{10}$ in 8 cases; $\frac{1}{30}$ in 8 cases; $\frac{1}{40}$ in 9 cases; $\frac{1}{50}$ in 1 case; $\frac{1}{100}$ in 1 case.

2. An imperfect success in three eyes, with the vision of $\frac{1}{200}$ in 1 case; count fingers at a distance of 10' in 2 cases.

3. Loss of three eyes.

Of the seven double operations of cataract of the men, there was: 1, perfect success in five patients; 2, the loss of one eye in one patient; and, 3, the loss of both eyes in one patient.

Of the eight double operations of cataract of the women, there was in seven patients a perfect success; in one patient the loss of one eye.

Of soft cataract, there were operated four men and five women; of the former, one right and three left eyes, of the latter, three right and two left eyes.

The ages were as follows: Men: 18 years, 2; 20 years, 1; 27 years, 1. Women: from 20 to 29 years, 4; 37 years, 1.

The result of the operation was:

a. Of the men:

1. A perfect success in three eyes, with the vision of $\frac{1}{2}$ in 1 case; $\frac{1}{7}$ in 2 cases.

2. An imperfect success in one eye, with the vision of $\frac{1}{200}$.

b. Of the women:

1. A perfect success in four eyes, with the vision of $\frac{1}{2}$ in 2 cases; $\frac{1}{10}$ in 2 cases.

2. An imperfect success in one eye. Counts fingers at 5'.

Of traumatic cataract, there were operated, of six men, four right and two left eyes; of two women, two right eyes; of two boys, two left eyes; and of one girl, the right eye.

The ages were as follows: Men: from 16 to 19 years, 2; from 30 to 39 years, 2; 25 years, 1; 52 years, 1. Women: 28 years, 1; 32 years, 1. Boys, 14 years, 1; 15 years, 1. Girl, 14 years, 1.

The result of the operation was:

a. A perfect success:

1. Of the six men, with the vision of $\frac{10}{30}$ in 2 cases; $\frac{10}{50}$ in 2 cases; $\frac{10}{70}$ in 2 cases.

2. Of the boys, with the vision of $\frac{10}{20}$ and $\frac{10}{20}$.

3. Of one woman, with the vision of $\frac{10}{20}$.

4. Of the girl, with the vision of $\frac{10}{20}$.

b. An imperfect success:

Of one woman. Counts fingers at 8'.

Of complicated cataract, there were operated, of six men, three right and three left eyes; of two women, one right and two left eyes; and of one girl, the left eye.

The ages were as follows: Men: 16 years, 1; 28 years, 1; 49 years, 1; from 60 to 70 years, 1. Women, 46 years, 1; 67 years, 1. Girl, 9 years, 1.

The result of the operation was:

a. Of the men:

1. A perfect success in four eyes, with the vision of $\frac{10}{40}$ in 2 cases; $\frac{10}{70}$ in 1 case; $\frac{10}{100}$ in 1 case.

2. An imperfect success in one eye. Counts fingers at 2'.

3. Loss of one eye.

b. Of the women:

1. A perfect success in one eye, with the vision of $\frac{10}{40}$.

2. An imperfect success in one eye. Counts fingers at 9'.

c. Of the girl:

An imperfect success. Counts fingers near by.

Summing up the results of the operation, we have:

1. A perfect success in eighty-eight cases, with the vision of $\frac{10}{40}$ in 1 case; $\frac{10}{50}$ in 5 cases; $\frac{10}{70}$ in 7 cases; $\frac{10}{100}$ in 10 cases; $\frac{10}{30}$ in 24 cases; $\frac{10}{40}$ in 16 cases; $\frac{10}{50}$ in 7 cases; $\frac{10}{70}$ in 6 cases; $\frac{10}{100}$ in 3 cases.

2. An imperfect success in fifteen cases, with the vision of $\frac{15}{200}$ in 2 cases; $\frac{10}{200}$ in 2 cases; $\frac{8}{200}$ in 1 case; $\frac{6}{200}$ in 1 case; $\frac{5}{200}$ in 1 case; count fingers at 10' in 2 cases; counts fingers at 9' in 1 case; count fingers at 8' in 2 cases; counts fingers at 5' in 1 case; counts fingers at 2' in 1 case; counts fingers near by in 1 case.

The course of the operation and of the healing process of the hundred and ten cataracts was as follows:

In seventy-seven cataracts the course of

the operation was perfectly normal. Of these, sixty-one cataracts underwent a perfectly normal process of healing, with a perfect success of vision in fifty-nine cases. Two cases had only an imperfect success, resulting from intraocular diseases previous to the operation, which destroyed vision. These two cases were as follows:

1. Boy, 16 years old. Right eye. Soft cataract. Operation and course of healing normal. Result, counts fingers at 2'. The background of the eye shows very large circumoptical choroidal atrophy; very large atrophy of the choroid and pigment macerations; retina in some parts atrophic.

2. Girl, 9 years old.

Left eye. Soft cataract. Operation and healing process normal. Result, counts fingers near by. The cause of the imperfect success was atrophy of the optic nerve.

In the other sixteen normal operations of cataract the healing process was abnormal.

1. In seven cases there occurred iritis. Final result, perfect success.

2. In four cases eye recovered with membrane in pupil. Final result, perfect success.

3. In two cases there was iritis, followed by closed pupil, resulting in imperfect success, viz.:

a. Carpenter's wife, 64 years old. High degree of senile marasmus.

R. E. Medium hard, mature cataract, with large nucleus. Operation normal. On the second day of the operation there was but slight irritation, which in the following days developed into iritis with hypopion, and ended with closure of pupil. When the patient was discharged, she counted fingers at 10' with +3.

b. Laborer, 59 years old, drunkard.

R. E. Soft, nearly mature cataract, with small nucleus. Operation normal. Twenty-four hours afterwards, exudative iritis broke out, ending with closure of pupil. Three months after the departure of the patient from the infirmary, iridectomy and laceration of the opaque membrane. V = $\frac{6}{200}$ with +4.

4. In one case hemorrhage occurred in the anterior chamber leading to imperfect success, as follows: tailor's wife, 29 years old. General health very feeble.

L. E. Soft, mature cataract. Operation

normal. On the sixth day after the operation, during which the healing process was totally normal, and after the removal of the bandage, a considerable hemorrhage in the anterior chamber took place, which repeated itself on the seventeenth day. At the time of her dismissal, six weeks after the operation, the vitreous was still so cloudy that the background of the eye could not be seen. Patient counted fingers at 5'.

5. In one case irido-cyclitis set in, leading to phthisis of the eyeball, viz., farmer's wife, 62 years old.

R. E. Hard, mature cataract, with large nucleus. Operation normal. On the second day a slow form of irido-cyclitis began, which, followed by hemorrhages, led to phthisis of the eyeball.

6. In one case panophthalmitis set in, leading to phthisis of the eyeball, viz., servant, 53 years old.

R. E. Medium hard, mature cataract, with large nucleus. Operation normal. On the day following, suppuration on the edges of the wound took place, which progressed so quickly that on the third day the anterior chamber was filled up with pus. The result was phthisis of the eyeball.

In thirty-three cataracts the course of the operation was abnormal.

A. In thirteen cases small fragments of cortex were left in the eye.

Of these the healing process was as follows:

1. In five cases without any accident whatever, with delicate membrane in pupil and perfect success of vision.

2. In three cases with iritis and lateral pupillary membrane, but with good central pupil and perfect success of vision.

3. In four cases with iritis and membrane in pupil, of which there were two cases with perfect success, and two with imperfect success; the latter two as follows:

a. Baker, 67 years old.

R. E. Hard, mature cataract, with medium large nucleus.

On lacerating the capsule, luxation of the lens upwards and outwards. Lens removed with spoon. Some small pieces of cortical remained. In the course of healing, a slow form of iritis set in, ending in capsular opacity. Five months after the operation, iridectomy upwards and lacer-

ation of the pseudo-membrane, resulting in vision of $\frac{10}{200}$ with $+3\frac{1}{2}$.

b. Farmer's daughter, 28 years old.

R. E. Perforating wound of the centre of the cornea. Traumatic cataract. Cortical very much swollen. Anterior chamber very shallow. Eyeball soft. Injury of the eye twenty-four hours previous.

On making the section a part of the fluid cortical substance was emptied through the corneal wound; the remaining cortical had to be removed with the spoon. Patient, having been insane two years previously, was very unruly and violent, tore off bandages, making any after-treatment entirely impossible. Wound healed spontaneously. The result was: leucoma, adhesion of the cornea, and secondary cataract. Six weeks after the first examination, patient counted fingers at 8'.

4. In one case with iritis followed by closed pupil, resulting in an imperfect success, viz., smith, 55 years old.

R. E. Hard, mature cataract, with large nucleus. The nucleus had to be removed with the spoon. Small pieces of cortical remained. On the second day, iritis with consecutive cyclitis, ending with closed pupil. At the time of discharge, on the twenty-fourth day of the operation, patient counted fingers at 8'.

B. In six cases there remained in the eye cortical with blood. Of these the healing process was as follows:

1. In three cases without any irritation, with membrane in the pupil and with perfect success.

2. In one case with iritis and lateral pupillary membrane and with perfect success.

3. In one case with iritis and closure of pupil and with imperfect success, viz., weaver, 62 years old.

L. E. Soft, nearly mature cataract, with medium-sized nucleus. While removing the lens, luxation of the same upwards and inwards. Lens removed with the spoon. Some crumbs of cortex remained. Hemorrhage in the anterior chamber after the operation. During the following thirty-six hours the eye did perfectly well. On the morning of the third day patient became unruly and violent, and senile dementia broke out, lasting for about five days. A regular treatment of the operated eye could not be effected. Exudative iritis set in, followed by closed pupil. At

the time of his discharge, on the forty-third day after the operation, patient counted fingers at 4'.

4. In one case with irido-cyclitis and loss of vision, viz., officer's widow, 59 years old. General health very feeble.

R. E. Soft, mature cataract, with small nucleus. After iridectomy, considerable hemorrhage in the anterior chamber. Lens removed with spoon. On the second day, irido-cyclitis, followed by phthisis of the eyeball.

c. In three cases loss of vitreous took place. Of these the healing process was as follows:

1. In two cases with irritation and with perfect success.

2. In one case with slight irritation and imperfect success, viz., merchant's wife, 67 years old.

R. E. Black cataract. Nucleus very large and dark-colored. While removing the lens, prolapse of vitreous occurred. Lens removed with spoon. One or two drops of vitreous lost. Reaction slight. Pupil remained clear and dilated. At the time of her discharge, on the twenty-ninth day of the operation, the vitreous was still very cloudy. $V = \frac{5}{200}$ with $+3$.

D. In eleven cases loss of vitreous occurred, and fragments of cortex remained in the eye. Of these the healing process was as follows:

1. In two cases without irritation, with lateral pupillary membrane and perfect success.

2. In five cases with iritis, followed by closed pupil and imperfect success, viz.:

a. Farmer's wife, 65 years old.

R. E. Hard, mature cataract, with large nucleus. After opening the capsule, loss of vitreous and luxation of the lens. Lens removed with spoon. Some cortical remained. Forty-eight hours afterwards, prolapse of vitreous into the wound, followed by iritis and repeated hemorrhages in the anterior chamber. Eye recovered, with closed pupil. Three months afterwards, iridotomy. Result, $V = \frac{15}{200}$ with $+3\frac{1}{2}$. Floating bodies in vitreous.

b. Laborer, 49 years old, drunkard.

R. E. Soft, mature cataract, with small nucleus. After lacerating the capsule, loss of one or two drops of vitreous. Lens removed with spoon. Some small pieces of cortex remained. On the evening

after the operation, iritis set in, followed by exudations into the anterior chamber. Eye recovered, with closed pupil. At the time of his discharge, on the thirty-ninth day of the operation, $V = \frac{8}{200}$ with $+3\frac{1}{2}$.

c. Tailor's wife, 57 years old.

L. E. Medium hard, mature cataract, with medium-sized nucleus. While lacerating the capsule, luxation of the lens took place. One or two minims of vitreous escaped while removing the lens with spoon. Small fragments of cortical remained. Irido-cyclitis set in, producing closure of pupil. At the time of the discharge, on the thirty-fifth day of the operation, patient counted fingers at 10' with $+3\frac{1}{2}$.

d. Laborer, 20 years old.

L. E. Soft, mature cataract. Anterior chamber shallow. Dilatation of the pupil by atropia very sluggish and imperfect. While removing the lens, loss of one or two drops of vitreous. Some cortical remained. Slow form of iritis set in, ending with closed pupil. Three months after the operation, iridotomy. Result, $V = \frac{10}{200}$ with $+3\frac{1}{2}$. But four weeks afterwards the vision is only $\frac{10}{200}$. Same state after six months.

e. Locksmith, 69 years old.

R. E. Phthisis of the eyeball, in consequence of operation of cataract made elsewhere.

L. E. Hard, mature cataract, with large nucleus. Luxation of the lens while opening the capsule. Removal of the lens with spoon. Loss of some vitreous. Some crumbs of cortex remained. Iritis followed, producing closure of pupil and slight degree of phthisis of the eyeball. Four months after the operation, iridotomy. Result, $V = \frac{15}{200}$ with $+3\frac{1}{2}$. Vitreous cloudy.

E.—In three cases there occurred suppurative iritis and hyalitis, with loss of vision, as follows:

a. Smith's wife, 41 years old. Mother of eleven children. Has suffered with profuse hemorrhages in childbed.

L. E. Medium hard, mature cataract, with small nucleus. On removing the lens, luxation of the nucleus took place. The nucleus had to be removed with spoon, whereupon loss of some minims of vitreous. A few fragments of cortical remained. Suppuration in the pupillary

region set in, causing secondary suppuration of the cornea, ending with atrophy of the eyeball.

b and *c*. Laborer, 59 years old, drunkard. General condition very poor. Of both eyes, medium hard, mature cataract, with large nucleus.

R. E. On attempting to remove the lens, prolapse of vitreous took place. Lens was removed with spoon. Some cortical remained. Twenty-four hours after the operation, violent iritis, with suppuration in the anterior chamber. Result, panophthalmitis and phthisis of the eyeball. Sixteen months afterwards, after having performed iridectomy six weeks previously, the extraction of cataract of the left eye was made. On lacerating the capsule, a large quantity of fluid vitreous escaped through the section. The lens had to be removed with spoon. Cortical remained. In this eye, too, there was repeated the same process of suppurative iritis and hyalitis, ending with phthisis of the eyeball.

F.—One case was lost by suppurative hyalitis, viz., weaver, 60 years old. General health very poor.

R. E. Black cataract, with large, dark nucleus. While lacerating the capsule, a large quantity of fluid vitreous escaped. Lens removed with spoon. The twenty-four hours following the operation the eye did perfectly well. In the second night patient became restless and troublesome, left his bed and tore off the bandage. Senile delirium broke out. The wound re-opened. Iritis set in, followed by hyalitis. Result, form of the eye intact, but no vision.

1605 ARCH STREET, PHILADELPHIA.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINIC OF DR. J. M. DA COSTA.

Reported for the *Medical Times*.

SALICYLIC ACID IN ACUTE RHEUMATISM.

THE patient is 22 years of age, and a widow. She inherits the rheumatic diathesis from her father. Last Christmas she took cold, and was confined to bed with chills and fever for a week. Her knees at that time began to swell, and

grew red and painful. From that day until now the rheumatism has steadily progressed, involving joint after joint, until it has finally attacked the fingers. The case has plainly been one of an essentially migratory character. First one joint would be affected, then in a day or two the pain and swelling would leave that joint and settle upon another. So the disease has gone on from bad to worse, until, after a partial recovery, followed by a dangerous relapse, the patient was admitted to the wards on February 5. Her temperature was 101° , with a slight falling remission of less than 1° . The ankle-joints, the left in particular, were very much swollen, looking as if they had borne the brunt of successive attacks.

Soon after admission ten grains of salicylic acid were administered, and the dose repeated every hour until six doses had been taken. The amount of the dose was then reduced so that about a drachm of the acid would be taken in the course of twenty-four hours. The results of this treatment were most striking. On February 8, three days after admission, the temperature fell to $99\frac{1}{2}^{\circ}$; on the following morning it was down as low as 99° . This represents the record of last night and this morning.

There has also been a very marked change in the condition of the woman's skin. Upon admission it was harsh; now the skin is soft, and the perspiration gentle. The reduction in the amount of pain has been very great. To-day, in fact, the woman is almost free from pain, and can move all her joints, except the ankle-joints, without giving rise to any pain whatsoever. The swelling in her hand has wholly disappeared, except in the first metacarpal joints, where there is still some slight stiffness and swelling. The left ankle is also still sore.

After all, however, I am not inclined to lay much stress upon the disappearance of all the external signs of the attack. The internal symptoms of acute rheumatism are always the most dangerous ones. Upon admission the patient exhibited, upon careful auscultation, a slight pericardial friction-sound. This morning I examined her chest again, and although still present, the sound was but very slight. One of the good results of our treatment has therefore been that the pericarditis has not been followed by an effusion. There are

at present no valvular sounds. I ought to say, just here, that enough morphia was administered in conjunction with the salicylic acid to quiet the patient and ease the paroxysms of pain. The pericarditis was checked by the application of a blister over the heart on February 6, and by subsequent poulticing of the blistered surface.

Before sending this case out, I wish to call your attention particularly to four or five points connected with it. Let us (1) examine the state of the left foot and ankle. They are much swollen, and the swelling is not confined to the joint, but has involved all the tissues of the foot. This condition of things is an unusual one, being but rarely found in acute rheumatism. Here the successive attacks settling upon the same joint have brought on a persistent, inflammatory thickening. This condition will, I fear, result in a permanent stiffening of the joint, a partial ankylosis, such as often succeeds rheumatic gout. We may have an abscess formed. To sum up, we may have certain marked local changes taking place which are unusual in rheumatism, except as sequences of successive localized and unrelieved attacks. There is generally no permanent lesion of the joints or of the connective tissue. Here I fear an exception to the general rule.

I would call your attention (2) to the wonderful effects of the acid in this instance. There had been frequent relapses, and all other treatment had failed, and yet all the symptoms were entirely controlled in three days by the new remedy. You should remember that, as a general rule, if salicylic acid acts at all, it acts promptly. Therefore, salicylic acid, or the salicylate of sodium, to be successful, must be promptly so. If it does not cause a change for the better in the course of two or three days, give it up and try something else. If the acid had shown no good result by to-day in the case of this woman, it would have been useless to continue the treatment longer.

There is a great disadvantage (3) in the administration of large doses of salicylic acid. They may bring on fatal depression. Less than a drachm of the acid in the course of the first twenty-four hours is useless. You ought to be able to administer as much as a drachm and a half without producing any bad results. I prefer the salicylate of sodium to the un-

combined acid; it is better borne by the stomach, and can be given in larger doses. I repeat what I said before: there is danger of great prostration following the use of large doses of the acid; therefore, if the pulse becomes feeble and the patient delirious at any time, stop the remedy instantly. Deaths have been reported as following this very prostration and delirium. Another thing: never give salicylic acid in cases of cerebral rheumatism. It is prone of itself to produce dangerous cerebral symptoms.

What (4) about the pericarditis? Has the salicylic acid any influence on pericarditis and endocarditis? What change of treatment does their presence indicate? We must have definite opinions upon these subjects. Salicylic acid has no effect whatsoever upon the cardiac complications of acute rheumatism. Over the fever, and pain, and swelling, it exerts, as you have seen, an excellent influence. Upon the pericarditis and endocarditis it has no effect whatsoever. Where these complications exist you had better unite with the acid some other remedy. In this instance a blister was all that was necessary. In more severe cases, give large doses of digitalis, or of acetate of potassium.

What (5) shall be the after-treatment? The rheumatism has been checked by salicylic acid, and the heart affection has yielded to blistering. There still remain the local thickening and inflammation of the ankle-joint. What shall we do for that? How try to prevent the occurrence of partial ankylosis? I shall order a series of small blisters applied. The part shall then be enveloped in warm-water dressings, so as to keep up constant moisture and secretion. Chronic thickening may haply be thus prevented. In the mean while, we must not give up the salicylic acid. We will, however, reduce the dose to forty grains in the course of the twenty-four hours. If the woman shows any tendency to relapse, I shall order her placed on quinia. In all cases of this kind, whether my treatment has been by the alkalies, by large doses of the bromides, or by salicylic acid, I have always treated relapses with quinia. To prevent the recurrence of relapse, I will have this patient take twelve grains of quinia daily. As regards diet, she must have milk, eggs, tea and toast, and occasionally oysters and meat. We shall watch carefully the peri-

carditis, and apply repeated small blisters to the ankle, followed by fomentations.

Before dismissing the subject, I wish to show you this post-mortem specimen of acute pericarditis. The girl from whom it was taken was admitted to the hospital in a dying condition. She had extensive pericarditis with effusion, pneumonia of the right side, and pleurisy of both. Under this complication of disorders she rapidly succumbed. You see that the whole pericardium is covered with thick lymph. Where pericarditis has reached that stage it is next to impossible to check it. I have brought this specimen before you to show you what pericarditis, in its most advanced stage, really is.

THE HYPODERMIC INJECTION OF DIALYZED IRON IN CHLOROSIS.

A. L., aged 21 years, single, has a history of hereditary lung trouble. Thus far the girl herself has given no evidence of any pulmonary disease. She has never had malarial fever, nor rheumatism. Last spring she began to feel badly. She lost strength and health, and suffered from frequent attacks of palpitation and dyspnoea. On Christmas last the symptoms became worse; her legs and feet began to swell, and she passed more water than normal. At present her appetite is fair, her bowels are regular, and she sleeps moderately well. There has been a total arrest of the menses for the past three months. Her digestion is only fair. There has been no loss of flesh.

This is a typical case of chlorosis. There are several questions, however, which must first be settled before I proceed to tell you of my new plan of treatment. Is (1) the marked anæmia present in this case connected with any organic cause? And (2) is the swelling of the lower extremities due to cardiac disease, or to disease of the blood? The girl's temperature is about normal, with a range of from 98° in the morning to 99° in the evening. You notice how pale her tongue and gums are. The conjunctiva is pearly, and the ears are pale. Examining the heart, I find that it beats very rapidly. This is probably largely due to the excitement of being before the class. Even in the wards, however, it beats rapidly. The heart-sounds are sharply defined. There is no sign of valvular disease. On the right and left side of the base of the heart I hear a soft systolic murmur. There is no en-

largement of the heart. The murmur which I hear is undoubtedly a blood-murmur. This murmur is faintly transmitted into the carotids. I can distinguish a very marked "venous hum" in the jugulars. I have never heard this hum so plainly before. The "venous hum" is a sign of extreme anæmia. I find no cause whatsoever of circulatory disturbance. I see only the signs of a change in the condition of the blood. There is no disease of the liver, lungs, spleen, or uterus; no organic trouble anywhere. We call cases of this kind by the name of chlorosis. We are unable to find out why the blood is changed. This girl's blood has been examined microscopically. There is no change in the relative proportion of white to red blood-corpuscles. There is, however, a slight deficiency in red corpuscles. This could not be properly called a case of leucocythæmia. It is undoubtedly chlorosis,—menstrual disorder, connected with deficiency of the red blood-corpuscles. The palpitation, dyspnoea, and swelling of the feet are symptoms of the deficiency in the red element of the blood, and not the results of any organic disease.

The girl has improved vastly under treatment. She is getting plenty of rest and good food, but she had them both in abundance before she came to us. Her rapid improvement is altogether due, I think, to a new remedy which I am employing in a very novel manner. I refer to the rapid introduction of iron into the girl's system by means of the hypodermic needle. Why has this not been practicable before the present day? Because it has been wellnigh impossible to obtain a non-irritative form of iron for hypodermic use. The tartrate of iron, although one of the mildest forms, is entirely too liable to cause irritation and abscesses. Lately a new preparation of iron, the dialyzed iron, appeared in the market, which, it is claimed, is neutral and non-irritating. It struck me at once that this was just the thing to be used in my proposed hypodermic injection. I have been using this dialyzed iron hypodermically in this case for the past few days, and it has come fully up to its reputation. There have been none of the usual after-effects of iron, such as costiveness and disordered digestion. All these are done away with. I have been giving daily hypodermic injections of fifteen minims of pure dialyzed

iron. The iron was diluted at first, but, experiencing no unpleasant after-effects, the assistant has, for the past day or so, been using the dialyzed iron undiluted. For the last four days the girl has had a daily injection of fifteen minims. The scars marking the spots where the needle has been introduced show no sign whatsoever of inflammatory action. To-day the patient shall have an injection of twenty, to-morrow of twenty-five, and on the next day of thirty minims of the pure, undiluted iron. I think we are going to gain in therapeutics by this case. I certainly expect to find a very rapid change for the better in the girl's condition in the course of the next five or six days. I will bring her before you again and report progress on Saturday next. Between now and then I will see that her blood is carefully examined under the microscope by an expert.

[The girl was again brought before the class two weeks afterwards (February 23). She showed the most wonderful improvement. Dr. Da Costa said, "You will remember that when I last brought this case before you the blood-murmurs were distinct, and that there had been no menstrual flow for the space of three months. The daily injection of thirty drops of the dialyzed iron under the skin of the girl's arm has not caused the least irritation. Her digestion is admirable, and, what is most wonderful of all, she has menstruated during the past week. Her strength is so much better that she wants to go right home. You see how the color is coming back to her lips, gums, and tongue. Another evidence of her very marked improvement is the fact that the 'venous hum,' which was so loud and marked two weeks ago, is comparatively distant and faint this morning. I am convinced of the most positive and marked improvement in the case. The temperature is normal and steady. She feels well, her appetite is good, her bowels regular, and her headache all gone.

"Now that we have reached a point of such marked improvement, the question arises as to whether we shall continue this treatment by hypodermic injection, or give it up and place the patient on iron by the mouth. I think we may discontinue the hypodermic medication. In place of it, I will order twenty drops of the tincture of the chloride of iron, in water, thrice daily.

You will understand that I do this because I consider the case as practically cured.

"Do I think that we should have had such a rapid cure, and one so unattended with constipation and indigestion, if we had given the iron internally? I think not. You see, therefore, how excellent a method that by hypodermic injection is when the stomach will not retain the iron. Where the stomach will retain slight quantities of iron, we might give a little of the drug by the mouth, and the bulk of it hypodermically.

"Knowing how the iron thus introduced has acted here, we might with advantage employ this treatment in cases of pernicious anæmia. I say we ought to retry the use of iron in pernicious anæmia,—try its use hypodermically. The only reason, perhaps, that it has thus far failed to do good in that disease has been because of the great digestive disturbances attending its use."]

TRANSLATIONS.

ERUPTION FOLLOWING THE USE OF BELLADONNA.—M. Ferdinand Dreyfous communicated the following case to the Clinical Society of Paris (*La France Méd.*, 1877, pp. 754 and 762). A patient, 32 years of age, suffering with paralysis agitans, was ordered pills of belladonna. On the first day he took .025 milligramme ($\frac{3}{8}$ gr.) of the extract; on the second, .050 milligr. ($\frac{3}{4}$ gr.); on the third, .075 milligr. ($1\frac{1}{8}$ gr.). By this time he had taken in all .15 centigramme ($2\frac{1}{4}$ gr.) of the extract. He was now ordered a vapor bath. He had already begun to experience itching, which by the third night became almost intolerable. Suddenly his body was covered with a polymorphic eruption, generally erythematous and scarlatiniform, but at some points displaying small vesicles. Itching had begun in the upper limbs, passed from them to the penis, then the face, and finally the lower limbs. When seen, he looked as if the subject of general erysipelas. The entire face was red, the eyelids œdematous and so swollen that, partly on this account, partly because of the pain of moving them, they remained closed. The pupil could not be seen.

On closer examination, the forehead was observed to be bright red, covered with small, yellowish crusts; small yellow or

white points could be observed through the general red color. To the touch the skin was rough and infiltrated as in certain erythemata, the surface red and raised, but not abruptly, from the surrounding healthy skin. Towards the hairy scalp patches of reddened skin could be observed, which, however, were not raised above the surrounding surface. Small vesicles could be noticed on the edges of the enormously swollen eyelids. No eruption could be observed on the lower part of the jaws, the chin, or the nose. On one day the right ear itched, the next the left, the pinna of which was red and tumefied. Behind the ears and on the neck also the skin was red. On the limbs, in particular, the eruption resembled erythema papulatum. The skin of the arm and forearm (extensor surface) was yellowish red, dry, and covered with scales from dried vesicles; on the flexor surfaces somewhat less red, but about the bend of the elbow somewhat moist. The backs of the wrists and hands were affected, but not the palms. Some swelling and pitting on pressure over the right arm. No engorged ganglions in the axilla or epitrochlear region. On the trunk a rosy disseminate eruption in large areas, composed of minute elevated papules, each covered with a vesicle, mostly desquamating. About the anus some weeping, in addition to the usual eruption, which likewise involved the genitals and thighs. The legs and feet showed little or no eruption, though the itching in these parts was quite marked. Some sensation as of cold in the head. No dryness of the pharynx or mouth, or salivation. Almost entire suppression of urine for some time. Spontaneous recovery took place within a few days of the withdrawal of the belladonna.

In speaking of the case under consideration, and of belladonna eruptions in general, M. Dreyfous quoted largely from various writers upon the subject, showing great diversity of expression with regard to the appearance and symptoms of the eruption. x.

TWO CASES OF CEREBRAL RHEUMATISM TREATED BY COLD BATHS.—M. Langlebert has observed the two following cases (*La France Méd.*, 1877, p. 746). A woman, who had suffered with acute articular rheumatism eight or ten days, presented, when first examined, redness, tumefaction, and pain on pressure in various joints. Heart

normal, except a soft apex-murmur with the first sound. No pain in head or neck; mind clear; no delirium. Salicylic acid internally. The next evening a dose of morphia was administered, which was followed by uneasy slumbers, broken by wandering delirium, which was followed towards morning by coma. Temperature 106.3° . A bath at 77° was then given. Twenty-five minutes later the patient's temperature had fallen to 102.9° . She regained consciousness to a partial degree. When the water was drawn off, after a bath of two and a half hours, her temperature had sunk to 100° in the axilla. At this time the patient had not recovered consciousness entirely, but she did so within a few hours, and made a good recovery.

The second case was similar, excepting that the rheumatism was complicated with chronic bronchitis. The patient became insensible during the course of the disease, fell into coma with stertorous and irregular respiration, cyanosis of the face, with frothy lips, and a temperature which gradually rose to 107.9° . A bath of thirty-five minutes was administered, at the end of which time the patient's consciousness had only partially returned. The temperature, however, remained at 104.5° for twenty minutes, but during the last fifteen minutes in the bath it fell rapidly to 99.3° . Next morning it was 100.7° , and consciousness was completely restored. Recovery took place without heart complication. The bronchitis had totally disappeared. Certain nervous symptoms which were observed during and after the bath are noted by M. Langlebert briefly. x.

FEEDING CHILDREN.—Filippo Lussana (*Jour. des Sci. Méd.*, No. 12, 1877; from *Gazetta Med. Ital.*) says it has long been known that the saliva during the first weeks of infancy has not the power of saccharifying starchy matters, and consequently infants at this tender age cannot digest amylaceous substances. Instinct has taught this fact to the women of certain countries, so that in Lombardy, for instance, mothers are accustomed to chew and insalivate bread, etc., before giving it to their infants. This fact of the indigestibility of corn-starch, farina, and the like, by infantine stomachs, needs repetition, since the attempt to raise children by hand on these substances is constantly being made. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MARCH 2, 1878.

EDITORIAL.

THE PUBLIC ANALYST BILL.

DR. EDGE has recently introduced into our State Legislature a bill which we consider of the utmost importance to the general community, and especially to physicians as conservators and guardians of the public health. Pending legislative action upon it, we desire to enlist the sympathy and bespeak the support of the profession in its behalf. It is entitled "An act to make provision for the sale of food, drink, and drugs in a pure state, and to provide punishment for the wilful adulteration of the same," and its preamble sets forth the fact that "the practice of adulterating articles of food and drugs offered for sale, to be used by man and dumb animals, has become so frequent as to cause serious injury to the health and danger to the lives of those who use them, and demands the enactment of more stringent and effective laws for its repression and punishment."

The practice thus alluded to is one of which the consequences, both immediate and remote, are of the gravest import. It is hardly necessary to cite special instances of the evil effects of adulteration, nor is it at all requisite to go into an argument to prove the undenied existence of a practice which is so widely spread that it would probably be safe to say that four-fifths of the staple articles of food and drink, and at least one-half of the drugs, consumed in this country are in one way or another lowered in nutritive value or physiological activity for the sake of adding to the profits of the collector, the manufacturer, or the vendor.

The same state of affairs exists in other

countries, and has with them, as with us, finally become unbearable. According to a correspondent of the *Nation*, a commission is now at work in Berlin, draughting a bill to prevent the adulteration of eatables and drinkables, and the use of materials detrimental to health in the manufacture of wall-papers, wearing-apparel, toys, etc. The brewers have demanded penal laws to stop the manufacture of beer from dye-woods, molasses, quassia, and other cheaper and more harmful materials, fifty per cent. of the twenty different kinds of beer brewed or sold in Berlin being officially declared not to consist of malt and hops. Seventeen kinds of chocolate, which is largely used as an aliment by the Germans, have been analyzed with almost incredible results. Nine of them contained no cacao at all, and the majority were made up of vegetable dyes, ground cacao-pulps, bad sugar, and worse flour. A large wine-house of good repute in Berlin, whose specialty was the purest and dearest wines for sick people, has been closed because there was not a drop of real wine in the bottles.

The Society of Public Analysts of Great Britain, composed of men who for years have been charged with the work of detecting and exposing the various methods and materials employed in the sophistication of food and drugs, and whose work has been of the greatest value and importance, define an article to be adulterated, in the case of food or drink: 1, if it contain any foreign ingredient which may render such article injurious to the health of a consumer; 2, if it contain any substance which sensibly increases its weight, bulk, or strength, or gives it a fictitious value, unless it be necessary to its collection, preservation, or manufacture; 3, if any constituent be wholly or in part abstracted or omitted, or if it be in imitation of or sold under the name of another article.

In the case of drugs: 1, if, when retailed

for medicinal purposes under a name recognized in the Pharmacopœia, it be not equal in strength and purity to the standard laid down in that work; 2, if, when sold under a name not recognized in the Pharmacopœia, it differ materially from the standard laid down in approved works on materia medica or the professed standard under which it is sold.

It is, however, much easier to define an adulterated article than to detect it, and much easier to detect it than adequately to punish the offender or to guard against a recurrence of the deception. Only a very small proportion of those who are now daily imposed upon by unscrupulous dealers in innutritious food and inactive drugs would be pecuniarily able to support the expense of an analysis and a prosecution, and, if they were, they would have no guarantee whatever of safety in their dealings with the next retail grocer or druggist. The gravity of the evil is due to its extent and to the character of the articles concerned. We may in individual cases be but slightly affected by deterioration of food or drugs, but when we consider how many lives may depend on the power of an infusion or of a tincture, or, if in these days of therapeutical skepticism that be considered hypothetical, we contemplate the children whose physical future is contingent upon the character of the milk which is given them, the consumptives whose non-assimilation of fat has hastened if not caused their disease, and who depend largely upon butter for the supply of that fat, and then remember that we are practically at the mercy of those who sell these articles, we realize the importance of the subject and the necessity for protection.

The pecuniary value of the bread, butter, milk, and tea consumed yearly by the people of the United States runs up into the millions, and the profits derived from their manufacture and sale may easily be doubled by a little judicious admixture of foreign substances, with almost no risk of detec-

tion and with none whatever of punishment. The means which have from time to time been devised to enable the consumer to recognize the adulteration of these articles have all been ludicrously inadequate, and have demonstrated that every man can no more be his own chemist than he can be his own doctor. Take, for instance, the lactometer, an instrument which has been very largely used, and which has been relied upon as a conclusive test of the admixture of water with milk, but whose only real utility is to determine the weight of a given bulk of milk, which in itself is valueless knowledge. Pure milk consists of two portions,—skim milk, which is heavier than water, and cream, which is lighter than water. If pure milk be skimmed, a given bulk will weigh more; if water be added, a given bulk will weigh less; so that a proper combination of skimming and watering will leave the milk impoverished, but of the same specific gravity. The quality of butter, which is said to constitute the greatest proportion of the fat consumed by civilized people, is hardly second in importance to that of milk, and its adulteration is even more difficult of detection. Has the normal twelve or fifteen per cent. of water been increased to thirty or forty, and is the eighty-five per cent. of fatty matter derived from the cow or from the dripping-pan? When we imagine the possible substitution for the wholesome and clean-fingered dairy-maid of the peripatetic collector of soap-fat and offal, who daily offends our ears and nostrils, and when we consider, also, the alum in our bread, the creasote, glycerine, and benzine in our whiskey, the super-aqueous and cretaceous character of our milk, the turmeric, graphite, catechu, and sand in our tea, and the hundred other similar deceits and impositions under which we suffer, we awaken to a realizing sense of the necessity for a public analyst. The adulteration of drugs is a practice so

fraught with evil both to patient and to physician, so obviously dangerous to the health of the former and to the professional success of the latter, that neither argument nor illustration is needed to demonstrate the necessity for some certain and effectual means for its prevention and punishment.

This means the bill under consideration is intended to supply. After defining the character and degrees of adulteration, it directs the appointment by the court in each county of a public analyst, whose duties shall consist in examining suspected articles and testifying before the court as to their condition. It also provides for the fine and imprisonment of the offender. It certainly merits hearty support and approval, and we hope soon to see it one of the laws of this commonwealth.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 3, 1877.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Excision of four inches of the upper part of the rectum in consequence of intussusception caused by a villous tumor. Presented by Dr. M. O'HARA.

I WAS called, October 23, 1877, to Catherine Williams, 72 years of age, a native of Ireland, suffering from a hemorrhage from the bowels. She stated that, while defecating, a large mass was extruded suddenly from the anus, which bled very much, and which she could not replace; that three months previously it had appeared in the same manner with bleeding, but she was able to replace it; since that time she was subject to costiveness (easily relieved by the use of pulv. glycyrrhizæ comp.); she had losses of blood with her stools, but no protrusion since that time.

She had a cancerous family history,—a sister having died of cancer of the breast, and a brother having been affected with epithelial cancer of the nose.

On examination there was found a fungous, cauliflower-like mass hanging outside the anus, very red, with an apparent pedicle extending within the rectum, six inches long, and to the feel freely supplied with blood-vessels. On consultation with Dr. Willard, the growth was pronounced malignant and its

removal demanded. The tumor was three inches long, two and a half inches wide, and one inch in thickness, and was supposed to project from the anterior wall of the rectum, high up; the apparent pedicle was considered to be a portion of this wall dragged down by the weight of the tumor through the other portion of the rectum. Great difficulty was experienced in the diagnosis, as the tumor was large and obstructed the orifice of what was afterwards ascertained to be an intussuscepted portion of intestine, and not the ordinary pedicle of a tumor. The mass was soft, friable, bled freely, and had somewhat the feel of placental tissue. The lower part of the rectum seemed to be in a healthy condition as far as the finger could reach. With the finger you appeared to touch the point of attachment of the apparent pedicle on the anterior wall; behind, the attachment was not so distinctly felt.

The patient had no appearance of cachexy, or any signs other than of good health.

On the 24th of October, the tumor and portion of bowel (about four inches) presented to your notice were removed by the *écraseur*, and the cut edges of the intestine were brought down and tacked with sutures to the verge of the anus. There was no hemorrhage during or after the operation. The patient was given opium freely by mouth and rectum. During the first twelve hours she took as much as twelve grains, and afterwards a grain every three or four hours as needed to cause sleep and suspend the action of the bowels. Fluid nourishment was given freely. There was no sign of peritonitis, or even much febrile irritation, during the whole of the after-treatment.

October 26.—Flatus was passed freely, showing a complete thoroughfare. Pulse 100. Wakes up and takes nourishment.

27th.—Comfortable; takes nourishment; passes wind freely. The stitches were removed, and the gut permitted to ascend, which it did to about two inches.

29th.—Had a small, consistent, well-formed fecal evacuation; is doing well; pulse 82; slightly reduced in strength; some abdominal distention from flatus. Takes quinine, iron, etc., and opium is kept up regularly.

Nov. 1 and 2.—Doing well; daily normal evacuations.

6th.—Doing well; bowels regularly moved. Has appetite, and takes food regularly.

12th.—Ceased attendance. Upon examination this day the rectum was found capacious; the mucous membrane apparently soft and free from disease; no nodules or ulcerations; as high as the finger can reach, and with difficulty, was felt the orifice of the divided intestine, somewhat indurated, and surrounded with a ring of inflammatory deposit. The first finger could be carried with some difficulty into the opening.

Dec. 11.—The patient feels as well as before the operation; is going about her household

duties as before; sometimes a little costive and takes castor oil, but her bowels are generally moved naturally.

This case seems unique. I find in authorities no details of a similar case. Aitken, "Science and Art of Medicine," in his article on intussusception states that cases of intussusception in adults are rare,—so rare, that in the extensive experience of one of the largest civil hospitals in London (Guy's) Dr. Wilkes records that he has never seen but one case; and in this case the obstruction was never complete, and death did not occur for some weeks. In the Transactions of the Pathological Society of London for the first fifteen years of its existence, only seven cases are reported, no two occurring in the individual experience of any one man. In one case the symptoms continued for three months, ending in the passage of an invaginated portion of the ileum (containing a polypoid tumor) by the rectum, with recovery. Aitken says he never saw a case during life, or a post-mortem of one, in an adult. Five cases are reported in the Transactions of the Pathological Society of London, which were associated with polypoid tumors at or near the site of lesion. He gives twelve per cent. as the proportion of the colic invaginations. In this connection I would refer to a case of invagination of the descending colon, with autopsy, reported by Dr. G. W. Brown, of Port Carbon, page 729 of Transactions of the Pennsylvania State Medical Society for 1877. In this case, during life, the trouble was diagnosed scirrhus of the bowel. The symptoms of obstruction existed off and on for one year. The autopsy showed an invagination six inches long, caused by a tumor two inches long. The fæces had caught the tumor, drawing the bowel into itself. The inverted end of the intestine resembled the os uteri, with the large cap of the tumor outside, and the body entirely stopping up the opening, which was the immediate cause of the trouble. There had been frequent attacks of inflammation, fibrous bands had formed, and bound the parts together; this, with obstruction of the tumor to the passage of fæces, caused perforation, escape of the fæces into the peritoneum, peritonitis, and death. In my case similar results must have happened if the trouble had not occurred in a part within reach of surgical art. Similar cases should be thought of in the treatment of invagination by injections or forced insufflation (with bellows), which would only make the obstructing cause act more injuriously, increasing its stop-valve action. I find no record of a similar case to the one here reported, of recovery after surgical operation, though higher up in the bowel nature has sloughed off the invagination and tumor, with recovery.

I am indebted to Dr. Seiler for the following examination of the growth: "The piece of rectum sent to me presents, on section under the microscope, the appearance of hypertro-

phied villi, lined with columnar epithelium, and penetrating into the submucous tissue. The medullary substance of these villi appears to consist of only a few fibres of connective tissue."

Dr. WILLARD said, When this patient was first seen, the anus was found to be easily dilatable, and with the index and middle fingers the attachment of the mass to the anterior wall of the rectum could be readily felt, some four or five inches above the anus, this attachment being within reach on account of the relaxed condition of the tissues of the perineum. Posteriorly the connection with the bowel was not so distinct, a fact which is now easily explained, but at the time this circumstance, taken in connection with other appearances, caused me to believe that the tumor had its origin from the anterior wall.

The soft, fungous condition of the mass, its tendency to bleed, and the family history of the case, indicated that it was malignant in its character, and removal seemed to be the proper course to be pursued. Accordingly, the chain of an *écraseur* was passed around the apparent pedicle, and was caused to cut its way slowly through the tissues. No hemorrhage followed, but when the removed piece was examined it presented the puzzling appearance of being a tube four inches long, of the size of the large bowel, but, instead of the normal condition of being lined by mucous membrane, its inner wall was found to be serous, while the outside was mucous membrane. This is difficult of explanation except upon a model; and I have here a muslin tube which will represent the intestine, the different-colored sides indicating respectively serous and mucous membranes. When I invaginate a portion of the tube, and then cut it across, it will be seen that, counting the wall to consist of only two layers, serous and mucous, first is encountered a serous membrane, then a mucous membrane, then the same again, then peritoneum, then the same again, then mucous membrane, and the centre of the gut is reached. The other side will be the same. When cut across and removed, the incised peritoneum seems to present the appearance of a ring or cul-de-sac, but upon relieving the intussusception the appearance presented is the exact counterpart of the specimen under consideration. If any one of you will try this manœuvre, you will see that it perfectly answers the requirements of the case.

Recognizing the fact that a complete excision of about four inches of the upper portion of the rectum had been made, two silk threads were passed through the upper portion, and the cut edges brought down and secured loosely to the verge of the anus, the intention being to hold the bowel in position until inflammatory adhesions should have glued it in a safe position. Here it was kept until the third day, when it was permitted to ascend about two or three inches, the threads acting as re-

liable guides and as preventives against too great recession. The anus was not freshened, as to have retained the cut end at this point permanently would have caused too great tension upon the bowel.

The happy result obtained was doubtless due to the condition of a small tube entering into and far underlapping a larger one, just as is sometimes seen in tin water-pipes. Had the rectum been allowed to become full during the first few days, or had diarrhœa supervened, overflow into the peritoneal cavity would doubtless have occurred. The opium, however, controlled everything nicely, and not a single bad symptom occurred during the progress of the case.

Dr. JOHN ASHHURST, Jr., asked at what distance from the anus the growth was supposed to have originated, and at what height the reflexion of bowel was found. From the history, as read, and from his inspection of the specimen, he was somewhat at a loss to know why the case was called one of intussusception, rather than one of prolapsus of the rectum, which, as was well known, might be produced by the straining efforts excited by the presence of a polypus or other tumor in that part of the bowel, just as intussusception might result from the presence of an intestinal tumor at a higher point. In cases of complete prolapsus, a deep sulcus could be felt all around the protruding portion of gut, deeper in the adult than in the child, on account of the greater thickness of the sphincters, and the anatomy of the affection was the same as that of invagination, though the latter name was ordinarily reserved for those cases which occurred at a higher point, such as the neighborhood of the ileo-cæcal valve.

Dr. ALLEN inferred, inasmuch as the specimen included a portion of the bowel with a complete investment of peritoneum, that the growth had arisen from the upper third of the rectum. This portion closely resembles the colon in its structure as well as in its morbid conditions. Intussusception would be likely to occur here, and not prolapsus. Prolapsus, indeed, would appear to be confined to the middle and lower thirds of the rectum. The initiation of prolapsus is the descent of the mucous membrane and the circular muscular layer away from both the longitudinal muscular layer and the fibrous layer which remains intact. This is the essential feature in the mechanism of prolapsus, no matter how the process may be complicated.

Dr. ASHHURST said that systematic writers distinguished between *partial* and *complete* prolapsus of the rectum, and that while Dr. Allen's description was correct as applied to the former variety, in which the protrusion involved only the mucous and submucous tissues, yet in the *complete* form of the affection, in both adult and child, all the coats of the bowel were implicated, and there was actually an invagination of the rectum through the anus.

Dr. MEARS asked if there was present in this case any displacement of the uterus. He thought that the condition found to exist in the rectum might have taken its origin in the constant pressure exerted by a posterior displacement of the uterus, a prolapse of the anterior wall of the bowel thus occurring. This condition of prolapse would be increased by the efforts made to evacuate the contents of the rectum, and eventually form such a tumor as is described to have existed in this case.

He believed that a like condition of prolapse might be occasioned as a result of the use of a large pessary, such as it is stated the patient had worn for a period of twenty years. He agreed with Dr. Ashhurst with regard to the proper designation of the condition, it being one of prolapse and not of intussusception.

Pneumonia with unusual physical signs. Presented by Dr. E. T. BRUEN.

Jos. F., æt. 41, was admitted to Philadelphia Hospital December 7, 1877. He stated that for two years previously he had suffered from catarrh in winter, but had never been obliged to relinquish his work in consequence of it. A week before his admission, he was taken sick suddenly with fever, with pain in the chest, and was obliged to go to bed. Two days after, he commenced to spit up some very offensive purulent matter.

Upon examination of his chest, dulness on percussion was found to exist over the entire right lung posteriorly, excepting over an area of about four inches below the spine of the scapula, and between the scapula and the vertebral spines. At this point the percussion was very tubular, even tympanitic, in character. Anteriorly there was dulness from the clavicle to the second rib, but below this the percussion was very tympanitic. Laterally there was dulness. The patient complained very much of soreness over the region of the tympanitic resonance. The respiratory murmur, though everywhere feeble, was bronchial, excepting over the area of tympanitic resonance, where it became very hollow, cavernous. Below the spine of the scapula, posteriorly there was well-marked pectoriloquy, elsewhere the resonance of the voice was diminished. The left lung was filled with moist râles, but otherwise nothing abnormal was noted. Temperature was 102° F., pulse 120, the patient much exhausted by exposure and want of food. Expectoration was profuse, especially in the morning and evening; at other times there was but little, and the odor was very offensive, so much so as to render the air around the bed disagreeable. There had been but little loss of flesh.

A diagnosis of pneumonia was made, but the existence of a vomica in the parenchyma of the lung, or else bronchial dilatation, was strongly suspected.

The patient died suddenly the next day (December 8). A post-mortem examination

was made twenty-four hours after death. The right side of the heart was found almost filled with ante-mortem clot. Its structure was healthy.

The right lung was in the stage of red hepatization, passing into gray hepatization. No cavity or bronchial dilatation was to be found. There was a small pleuritic effusion at base of right pleural cavity. The left lung was congested, but otherwise normal. Examination of other organs revealed nothing unusual.

I would call attention to the physical signs present, because I have from time to time seen similar cases. The explanation given by some is that when consolidation is very complete we obtain tympanic resonance from the vibration of air in the bronchial tubes.

In this case, the history of previous bronchitis, the location of tympanic percussion, and the offensive character of the sputa, made me suspect bronchial dilatation, or a vomica. The history of these cases and the general symptoms are probably our safest guides to the correct interpretation of the physical signs.

Cancerous heart (?) with dilated right ventricle; sudden death, with symptoms of angina pectoris. By Dr. T. D. INGRAM.

The specimen I have to present this evening I believe to be one of cancer of the heart. It is from a patient dying suddenly with symptoms of angina pectoris,—Charles K., a German, aged 32 years, a spice-grinder, and a man of temperate habits. Though having a rather irritable disposition naturally, this I believe was possibly increased, as I learned that the man frequently complained of pain in the chest, over the region of the heart. His wife told me that for a long time he could sleep with comfort only while lying upon the right side.

The man frequently suffered from a slight cough, which he attributed to the dust from the mill, which was at times very irritating. He was regarded, however, by his fellow-workmen as somewhat of an athlete, being of a strong, muscular build.

In the early part of November I was called to see the man, thought to be dying in a paroxysm. I found him in bed, slightly propped up with pillows, and breathing with exceeding rapidity. There was no apparent dyspnoea or difficulty in the act, except that it was of a short, shallow, quick or panting character, too rapid to be counted. There was no lividity of the face: indeed, it was rather pale; and the hands were also quite cool.

His expression was one of great anxiety, and when spoken to, or questioned, he answered hurriedly and in monosyllables, in keeping with his manner of breathing. In this he quite persisted; but when told to breathe slowly he could do so without difficulty for a while, but would again soon relapse into the same shallow or panting breaths.

The pulsations at the wrist were very weak and rapid. On examination of the heart, I

found its action irregular, exceedingly rapid, and feeble. An examination showed the pupils to be quite sensitive to light; and indeed, as the mind was entirely clear, and the breathing not absolutely embarrassed, any serious disturbance of the prominent vital functions seemed limited to the heart.

His wife told me they had retired as usual, and that she was awakened by his peculiar panting respirations. He then complained of intense pain in his breast and left side,—a sense of suffocation, or rather that an increase of the pain would ensue with a deeper breath. There seemed, indeed, to have been no exciting cause. Thus I found him at about two o'clock in the morning, and, as he complained of excessive pain, at once I injected a full quarter-grain of morphia under the skin of the arm. I requested him to breathe more slowly, as I deemed that his symptoms were being aggravated by the shallow respirations. I then found that the breathing gradually became slower and deeper.

The heart's action was still exceedingly weak, and I sent for tinct. digitalis; of this I gave at once a half-teaspoonful dose, and repeated it in less than an hour, as I found the pulse to be gaining in strength and becoming slower. After giving the second dose, the strength of the pulse improved greatly, and the respiration became much more natural.

Leaving directions to continue the digitalis, ten drops every two hours, and a quarter of a grain of morphia to be given by the mouth if the patient did not sleep, I returned home, having spent about two hours with the man, promising to return again at 5.30 A.M. When I called at the house in the morning, I found it closed; and, as the lights were out, I presumed my patient was asleep, and left.

Being called out of town, I did not see him until the following day, when I found him about and enjoying his usual health. On examining the heart, I could discover no murmur, nor any irregularity, except a somewhat excited and peculiarly muffled action.

I now prescribed a large belladonna plaster, 6 by 6, and bade him wear it continuously, and tinct. digitalis ten drops three times a day. He called on me a week afterwards, complaining of a cough, which he referred, as before, to the irritating dust of his employment. I again examined the heart, and, as before, found no decided murmur, but, as I well remember, a peculiar muffled quality of its sounds.

I was next called hurriedly to see him on the evening of the 27th of November, three weeks after the former attack, the messenger saying he was dying in a spell. When I reached him, he was indeed dead, sitting in a chair, with his head and arms hanging over the back, presenting a most ghastly picture. He had been at his usual work during the day, but complained in the evening of pain in his chest. Rather later than usual, however, he ate quite a hearty meal. Later in the evening

he was engaged with some friends playing at cards. At the end of the game he asked for something to drink, as he was thirsty and felt the pain again in his chest; but, before the drink could be handed to him, he had got up, and was staggering, saying that everything looked black to him. The attendants assisted him to an outer room and placed him in a chair, whence he had been moved to another chair within the house, all occupying less than five minutes, when I found him dead.

The post-mortem was made thirty-six hours after death. We found the left lung adherent throughout to the chest-wall and diaphragm; the right lung was adherent above, but not to the diaphragm; it was slightly adherent to the pericardium.

The lungs were darkly congested posteriorly, less marked in front. They contained much dark frothy blood, but were everywhere crepitant, with no evidence of solidification or of other masses.

Within the pericardium there was about an ounce of yellowish and slightly-turbid fluid. The pericardium was nowhere roughened or adherent to the heart.

The heart was evidently enlarged, more especially in its width, by the right ventricle having a full rounded border. Closer examination showed the under or posterior surface of this enlarged ventricle, near the apex, to be deeply injected, or of a sort of mottled redness. When felt, it offered a marked resistance, or the sense of some infiltrated substance giving it much greater firmness than the remaining tissue.

On opening the right cavities we found several tuberos projections,—the largest about the size of an ordinary chestnut,—occupying a position on the ventricular septum near the auriculo-ventricular orifice, and binding down the smaller leaflet of the tricuspid valve. Other though somewhat smaller projections were scattered throughout the ventricular cavity, springing from both the septum and the outer ventricular wall. They were seated, apparently, immediately beneath the endocardial membrane. Much more marked, however, were the growths near the apex,—where they appear on the inside as elevated masses, and besides seem to be infiltrated throughout the muscular structure, reaching the outer or pericardial surface, as before described.

The cavity of the ventricle was markedly dilated, and its remaining walls thinned. The valvular leaflets at both orifices were otherwise healthy, though possibly insufficient from the dilated condition of the ventricle and auricle, as well as of the root of the pulmonary artery.

On opening the left ventricle the muscular wall seemed somewhat softened, and its cavity to be slightly dilated. The valves at both orifices were healthy and quite sufficient. Microscopical examination of the muscular

fibres of the left ventricle showed very plainly the normal transverse markings, though in some fibres there were scattered small granulations, indicative of slight degeneration.

No careful examination of the abdominal viscera was made. The liver and stomach were observed in place, and were apparently normal. As no symptoms referring to them were observed during life, and not supposing cancer, we neglected to examine them, as well as other points more frequently the seat of such primary diseases.

I may add, here, that no history of hereditary cancer could be obtained, nor is there any evidence of a possible syphilitic taint, to which these new growths might be referred.

I may be permitted to add the symptoms of another case of angina pectoris, which I have seen since the one just described, in a man presenting himself at the Jefferson College clinic. This man, also only 32 years of age, complains of paroxysmal attacks of pain in his chest, about the region of the heart, and extending to either side. He also feels the pain in his arms and hands, where he frequently has it relieved by rubbing. Active rubbing he says will also relieve the pain in his chest.

In this case, I found no difficulty in discovering a quite sufficient lesion of the heart. For, upon examination there is very evident enlargement of the organ, the apex reaching a point considerably without the left nipple, and upon auscultation there is a short systolic aortic murmur, followed by a loud harsh murmur at the same orifice.

The heart, although apparently beating strongly, gives but a feeble as well as a receding pulse. From the lesion of the valves, there is aortic regurgitation, and consequent dilatation of the left ventricle; this has not been followed by compensating hypertrophy.

To these notes I trust I may still be permitted to add some others, that I have quoted with reference to the history of cancer of the heart. In a short reference to the disease in an article in Ziemssen's *Cyclopædia of Medicine*, carcinoma is said to be the most frequent of the new growths of the heart, though a disease quite rare in itself. In 17,407 autopsies collected by two observers, cancer of the heart is said to have been found in only twelve cases. Again, in 4547 autopsies, of which 477 were cases of carcinomatous disease, cancer of the heart occurred nine times, and cancer of the pericardium seven times.

Cancer of the heart is much more frequently a secondary than a primary affection. Primary cancer of the heart may occur, and is generally of the colloid or melanotic form. Only one case of epithelial cancer of the heart is noted, and that by Paget.

I quote also from an article on the subject in Reynolds's *System of Medicine*, where it is stated that out of forty-five cases of cancer

of the heart only *two* were definitely of a primary character, and in these the disease existed in only a part of the organ; though in seven other cases no mention was made of its existence elsewhere than in the heart.

Still quoting from Reynolds, "the most frequent location of the disease seems to be in the right ventricle or auricle, though it may occur in other parts."

The deposit may either assume the form of distinct tubera, of various sizes, seated either beneath the pericardium, or more rarely beneath the endocardium, or it may be found infiltrated within the tissue of the walls or septa,—the latter rare.

Still further from Reynolds I have noted that many observers have been led to believe that a majority of cases of angina pectoris were due to some obstruction or disease of the coronary arteries, with consequent faulty nourishment of the heart, leading to its dilatation. One observer found the statistics of this condition in twenty-one out of thirty-six fatal cases; another found that in twenty-four out of forty-five cases there was degeneration or disease of the aorta, reaching the valves or extending to the coronary arteries. In ten cases there was positive disease, and in twelve other cases there was preternatural softness of the tissues of the heart itself.

Many authors and observers, including Trousseau, have noted the symptoms of angina pectoris, in a more or less characteristic degree, associated with thoracic aneurisms, especially those arising from the ascending part of the arch, near to or pressing on the heart itself.

In regard to the determination of how far any organic disease, and what special kind of organic disease, may have had to do with the symptoms of angina pectoris, I again quote from the article in Reynolds: "It is indeed at times very difficult; for, in the first place, organic disease may exist, without the possibility of its discovery, and, secondly, they are precisely the forms of organic disease most difficult of discovery that have been shown to be most frequently associated with deaths from angina pectoris."

The author says emphatically, though, that where the symptoms are less urgent, or in cases where the paroxysms become more frequently repeated, if the lesion can be distinctly made out by a careful examination, then the diagnosis becomes of the greatest importance, both to the physician and to the patient, in regard to prognosis and treatment during the intervals.

Report of the Committee on Morbid Growths.—"A microscopic examination of the new formation developed in the walls of the heart presented by Dr. Ingram demonstrates it to consist of lymphoid cells, spindle-shaped cells, and cells characterized by large granular round or oval nuclei, surrounded by a granular substance, suggesting very much the appearance of epithelial cells. There is a vis-

ible attempt to the formation of alveolar spaces by fibrillar connective tissue; but we also find between the cells a fibrillar intercellular substance. These elements, and their arrangement, give, in our opinion, the characteristics of a sarcoma,—variety alveolar. Muscular fibres in a state of granular degeneration, and undergoing inflammatory action, are seen in connection with the new formation.

"January 10, 1878."

Cancer of the œsophagus. Presented by Dr. JOHN GUITÉRAS.

Though I did not have an opportunity to study carefully during life the patient from whom the specimen was removed, yet there are some points about it that may be of interest. She was an old woman, presenting considerable cachexia. She had had difficulty in swallowing for several months. There was no history of cancer in the family. I saw her once in the wards of my colleague Dr. Wood. She vomited all solid food, and there was constant gurgling in the larynx. She was so frail, and was so much disturbed by the attempt to pass an œsophageal bougie, that the resident physician was obliged to give it up. There was some obstruction in the air-passages. Auscultation proved it to be mainly seated in the left bronchus. The cachexia, the persistent dysphagia, which was primary to and much more marked than the dyspnoea, and the absence of signs of atheroma and aneurism, were the symptoms pointing to cancer of the œsophagus. Besides, my attention has been called by Dr. Allen to the frequency with which cancer develops in the œsophagus opposite the bifurcation of the trachea. In the complete cartilaginous ring at this point he finds a source of irritation to the tissues of the œsophagus. The slight inclination of the œsophagus to the left explained the greater obstruction in the left bronchus. The specimen now before the Society shows very well how this pressure was brought about. Besides this anatomical relation, it will be seen that the tumor has attained its greatest size in the left wall of the œsophagus.

REVIEWS AND BOOK NOTICES.

SPINAL DISEASE AND SPINAL CURVATURE: THEIR TREATMENT BY SUSPENSION AND THE USE OF THE PLASTER-OF-PARIS BANDAGE. By LEWIS A. SAYRE, M.D., etc. London, Smith, Elder & Co.; Philadelphia, J. B. Lippincott & Co., 1878, pp. 121.

The plan of suspending the body by the head and shoulders, and the application of a plaster-of-Paris fixed dressing to the trunk, in Pott's disease and spinal curvature, while not original with Dr. Sayre, has been elaborated by him, and made widely known. With the indomitable perseverance and en-

thusiasm so characteristic of the writer, the treatment has been employed by him in three hundred cases since its first employment in 1874. It appears to answer admirably the purpose for which it is proposed, and has greatly increased the fame of Dr. Sayre and carried hope into the lives of many wretched sufferers. It is not the object of this notice to describe a method which has already attracted the attention of every reader of current literature. The treatment should be mastered by every physician. As Dr. Sayre insists, "The patient, by the system detailed, is able to remain under the sole care of him who is best fitted to apply remedial means, namely, the properly educated and general practitioner. Every medical man can treat these cases himself, with perfect success, in any part of the country, thus saving the patient the pain and expense of travelling long journeys to some specialist or institution devoted particularly to this class of deformities."

The work is copiously illustrated with photographs and wood-cuts, and presents a handsome appearance. It is with reluctance that we mention what in our judgment is a breach of good taste, viz., the frequent occurrence of the full-length portraits of Dr. Sayre and his assistants in the photographs accompanying some of the cases. These figures add little or nothing to the value of the photographs, nor do they serve to illustrate in any other way a work so creditable. We think their introduction was a mistake.

H. A.

DISEASES OF THE NASAL CAVITY AND THE VAULT OF THE PHARYNX. From the German of CARL MICHEL, Cologne. With an Introduction by E. L. SHURLY, M.D., and C. C. YEMANS, M.D. Detroit, C. Jung, 1877, pp. 109.

This pamphlet—in itself a valuable contribution to the subject of which it treats—is vilely translated. The translation, from all appearances, is the work of a non-professional person subsequently revised by a medical writer ignorant of German. Some portions read like travesties, others contain German words in parenthesis (the words themselves, while technical, being simple), and break into the construction of sentences in an annoying manner. With respect to the author's special features of treatment, we would mention the use of the galvano-cautery in chronic nasal catarrh. Some extraordinary statements are made respecting the efficacy of this method, which if borne out by subsequent experience will be a decided improvement in the treatment of this obstinate affection. It must be confessed, however, that the arguments presented in its defence are indifferent, and the important fact is withheld, that the catarrhal element in this class of affections is always a symptom demanding for its correction something more than a single inflexible method of cure. While the galvano-cautery may be

adapted in some cases, in others it would certainly prove incompetent, if not mischievous. Judging from what we have observed of the dimensions of the nasal chambers, it would be exceedingly difficult to apply the cautery in this country after the manner recommended. The book, however, shows careful work in many directions, and, in spite of the uninviting medium through which it is presented, will repay perusal. The labor of the American editors in their "Introduction" is confined to a half-page of unimportant matter.

H. A.

LANDMARKS, MEDICAL AND SURGICAL. By LUTHER HOLDEN. Second English Edition. Philadelphia, H. C. Lea, 1878, pp. 128, 12mo.

The second edition of this little volume contains essentially the same matter as is contained in the first. The form is changed from an octavo to a duodecimo, and presents an attractive appearance. The object of the author has been to collect the leading landmarks (an indefinite term, we think, but sufficing well enough) which help practical surgeons in their daily work. It has certainly been satisfactorily attained. The qualifications for writing such a book are rarely seen combined in one person. Mr. Holden is at once a good anatomist and a good clinical observer. He has taken the method of study initiated in the laboratory and engrafted it upon the complex conditions of clinical research.

H. A.

A MANUAL OF NURSING. New York; G. P. Putnam's Sons, 1878.

Dr. Victoria White, who compiled this manual for the Training-School for Nurses attached to Bellevue Hospital, has succeeded in making an excellent book. We have but one criticism to offer: there seems to be a tendency sometimes to assign to the nurse functions which belong purely to the physician. Thus, in speaking of eruptive fevers, directions are given as to the proper use of sponging, applications to the surface, etc. The nurse should, of course, know how to make these; but we think many would be led spontaneously to make them by the teaching of this manual, whereas these are most important matters, to be decided solely by the physician.

GLEANINGS FROM EXCHANGES.

INTRAVENOUS INJECTIONS OF AMMONIA IN A CASE OF COLLAPSE (*The Medical Record*, December 29, 1877).—Mr. Fitzgerald reports a case in which he employed intravenous injections of ammonia with success, at a time when death was imminent from collapse. The patient had suffered for a long time from profuse suppuration. When first seen by Mr.

Fitzgerald, he was almost dead; he had no pulse at the wrist, and his respiration was imperceptible. Thirty drops of a solution of equal parts of aqua ammoniæ fortior and water were at once injected into a vein. The injection was followed by violent convulsions, but these soon passed off, and the patient was able to sit up in bed and talk rationally. These good effects persisted for eight hours, but the signs of collapse then reappeared. A second injection was practised, but the greater quantity of it passed into the cellular tissue, and no marked effect was produced. A third injection was more successful. The convulsive movements were more violent than after the first operation, but the effects were more satisfactory, for the alarming symptoms did not again return. The patient subsequently recovered completely. The ammonia that escaped into the cellular tissue produced a large eschar. With a little care this unpleasant result might have been avoided. It is thought that the intravenous injections of ammonia deserve to be tried in other cases of collapse, and especially in cases of impending death from chloroform-poisoning.

THE USE OF THE ACTUAL CAUTERY (*New York Medical Journal*, February, 1878).—In an article on paralysis in Pott's disease of the spine, Dr. Poore gives the following directions for the use of the actual cautery. 1. The iron should be olive-pointed, and perfectly smooth; there must be no thin scales of oxidized metal on it, otherwise it will scratch the skin and make a sore. Use an iron with a platinum cap spun on; it always has a smooth surface, and does not oxidize. 2. The iron must be raised to a white heat; a lower temperature always gives pain, and makes a sore. 3. In children, always chill with ice the parts to be cauterized, and wipe the skin perfectly dry before applying the iron. 4. The iron must be simply brushed over the skin, so that after the operation there is only a whitish line to be seen.

WOUNDS OF THE LARYNX, AND THEIR TREATMENT (*New York Medical Journal*, February, 1878).—Dr. Lefferts, in his Report on Laryngology, gives the following conclusions drawn by Witte from statistics as recorded in the surgical histories of the recent wars.

1. That laceration of the larynx and trachea is very rare,—in battle only five in ten thousand wounds of all classes; in private practice they are more frequent; in the former class almost exclusively by fire-arms; in the latter by cutting instruments.

2. The diagnosis is usually easy; a pathognomonic symptom of a penetrating wound of the air-passages is the escape of air through the opening.

3. The progress is always slow; in extensive lacerations repair is not to be expected under thirty to forty days; not unfrequently alterations in the voice, stenosis of the larynx

(very seldom of the trachea), and aerial fistula are ultimate results.

4. The prognosis in incised wounds of the larynx and trachea, with extensive laceration of the soft parts, is much better than in those with but slight laceration, and in punctured wounds. Gunshot-wounds of the larynx appear to allow of a better prognosis than those of the trachea, but in both instances more than one-half of all cases are cured.

5. Severe concussions, contusions with marked disturbance of the voice and respiration, and fractures of the cartilages, are indications for a prophylactic tracheotomy.

6. It is likewise indicated where foreign bodies are lodged in the larynx or trachea.

7. Gunshot-wounds of the larynx and trachea together, punctured wounds in which the laceration of the mucous membrane is probable, incised wounds, with slight involvement of the soft parts, but marked injury to the cartilages, all render the performance of a tracheotomy necessary.

8. In incised wounds with free division of the soft parts, and simple lacerations of the trachea, the operation may be delayed, provided the case can be carefully watched and it is not necessary to transport it further.

9. Incised wounds of hyo-thyroid membrane may be sewed up after a tracheotomy has been done.

10. In incised wounds of the upper part of the thyroid cartilage, after a tracheotomy, sutures may be used through the cartilage.

11. Gunshot-wounds of the parts in the neighborhood of the larynx, with marked destruction of tissue, indicate a prophylactic tracheotomy:

(a.) When interference with either speech or respiration begins to manifest itself.

(b.) When secondary hemorrhage is feared, and the blood can find its way into the air-passages.

(c.) When the projectile lies in the vicinity of the larynx, and it is deemed undesirable to remove it.

12. A high tracheotomy is always to be preferred; then section of the cricoid cartilage; if necessary, a low tracheotomy can be done. The earlier the operation is performed, the less will be the difficulty, and the better the prognosis.

13. When circumstances permit, the operation is to be performed under chloroform.

14. Catheterization of the larynx, as well as compression and scarification, is to be practised in œdema of the glottis.

15. For a time after the operation, Trendelenburg's tampon canula is to be worn, and two at least should be furnished in the armamentarium of every sanitary department and field-hospital.

IODOFORM IN THE TREATMENT OF ORCHITIS.—Dr. Julian Alvarez recommended some time ago, in *La Independencia Médica*, iodoform in blennorrhagic orchitis as superior

to belladonna, cicutine, opium, or other alkaloïds. An ointment containing one to two parts of iodoform to thirty of the vaseline would be a suitable form.—*The Doctor.*

MISCELLANY.

PUBLIC ANALYSTS.—The following editorial paragraph from the London *Lancet* of January 26 indicates the feeling of that journal, and consequently of the profession in England, on the subject to which we have called attention in this issue:

"Faversham has distinguished itself by refusing to appoint a public analyst. It is strange that local corporations should court notoriety by declining to discharge a known duty. There ought to be some penalty imposed upon refractory communities who persist in evading the law. Their indulgence in self-will is not a noble pastime, and it has a demoralizing effect on the population at large. There is too much permissive legislation just now, and these exploits of local folly, pitiful as they may seem, not only make the right of self-government ridiculous, but go far to show that the legislature has been ill advised in trusting to the spirit of local enterprise, which it is so much the fashion to plead as a reason why as much as possible should be left to local effort. Possibly the sage councillors of Faversham may think better of their petty resistance to the impulse of common sense. We trust, for the credit of an otherwise enterprising borough, this may prove to be the case; but the public lesson to be learned from the episode is that the shortest and best way to insure the carrying out of a good law is to make its adoption compulsory, and not to count on more public spirit in a community than may suffice to make it do what must be done with as little local extravagance as possible, and as much success as can be secured at the smallest outlay."

At the annual meeting of the Board of Trustees of the Pennsylvania Eye and Ear Infirmary the surgeon in charge presented the medical report of the working of the dispensary during the seventeen months of its existence, from August, 1876, to December 31, 1877.

During this time there have been gratuitously treated in the dispensary 1541 patients, of which number 1083 were for eye diseases, and 458 for ear diseases, with 1721 cases of disease.

The number of important operations performed in the institute were 94; of minor operations, 156.

The Board of Trustees adopted the resolution changing the name of the institute, to be hereafter known as the German Eye and Ear Infirmary.

The dispensary is located at 441 North Fifth

Street, and is open for the gratuitous treatment of the poor, daily, from half-past one to three o'clock P.M.

The officers of the infirmary are Ch. H. Meyer, L. Westergaard, Dr. J. Aitken Meigs, Dr. J. Koerper, Dr. H. Tiedeman, Prof. John M. Maish, etc.

Surgeon in charge, Dr. M. Landesberg.

THE deaths of the celebrated French physicists M. Becquerel and M. Regnault are announced, also of the physician M. Barth.

DR. L. P. YANDELL, Sr., died, February 4, at his residence, in Louisville, Kentucky, in the seventy-fifth year of his age. At one time in his life Dr. Yandell acted as a Presbyterian clergyman; but almost all his active years were devoted to medical practice and journalism. He was one of the best-known of the physicians of the Mississippi Valley.

DR. DAVID M. YOUNG strongly recommends a teaspoonful of glycerine taken night and morning as a remedy for internal piles.

NOTES AND QUERIES.

TRANSMISSION OF DISEASE.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

A most remarkable and interesting case of transmission of diseased condition from the parent to the child may be found, I think, in the following case from my note-book, which I present without comment.

Child, 2 months and 5 days old,—father in the last stages of consumption, and death expected daily,—was taken, October 5, 1877, with difficult breathing and cough. Examination showed congestion and bronchial breathing over both lungs. Large moist râles supervened on the third day, with hemorrhage of pure bright blood from the lungs and all the mucous surfaces, stomach, bowels, nose, and ears, and death occurred on the 9th, four days following the attack, from asthenia. The child was cachectic from birth.

Very truly,

S. J. RADCLIFFE, M.D.

WASHINGTON, D.C., February 12, 1878.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM FEBRUARY 10 TO FEBRUARY 23, 1878.

WATERS, W. E., CAPTAIN AND ASSISTANT-SURGEON.—In addition to his present duties, to examine recruits and attend the artillery command in camp near this city (San Antonio). S. O. 33, Department of Texas, February 12, 1878.

WINNE, C. K., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month on Surgeon's certificate of disability, with permission to leave the Department and apply for one month's extension. S. O. 14, Department of the Platte, February 13, 1878.

TURRILL, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany recruits from San Antonio to Fort Clark, Texas, and, on arrival, to report to the Commanding Officer of that post for duty. S. O. 31, Department of Texas, February 9, 1878.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from temporary duty at Little Rock Barracks, Arkansas, to proceed to Lake Charles, Calcasieu Parish, Louisiana, and resume his duties as Post-Surgeon. S. O. 22, Department of the Gulf, February 12, 1878.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MARCH 16, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE ON SOME RARE FORMS OF DISEASE.

Delivered at the Pennsylvania Hospital

BY J. M. DA COSTA, M.D.

Reported for the Medical Times.

RHEUMATOID ARTHRITIS, WITH LOCAL PERITONITIS AS A SYMPTOM.

THIS patient is 34 years of age, married, and has three healthy children. None of her labors have been difficult. Her present trouble began first about three years ago, when she was living in a cold, damp house during the winter months. The disease has consisted of a series of attacks of stiffness of her fingers and swelling of her joints. The smaller joints have been most affected. You see how prominent the articulations of the fingers have become. The metacarpal and phalangeal joints give rise to distinct grating when moved. The hands, when in a position of repose, incline outwards. The joints of the left hand are not as much affected as those of the right.

The woman tells me that the swelling came on gradually, and began in the fingers of the right hand. Though the first rheumatic attack lasted some six months, she had no fever, and was not confined to bed. She says that the swelling and stiffness have been confined chiefly to the hands, but that of late months the knee- and hip-joints have been slightly stiff. The woman came here to be treated for the swelling and stiffness, and also for general loss of health. While in the hospital, during the past two weeks, she has had a sudden and acute attack of a somewhat surprising nature, all things being considered. There was a spot of circumscribed hardness, which was very tender to the touch, in the median line of the abdomen, and extending a little to the right. The spot was about the size of a fist. This was evidently an attack of local peritonitis, and, such being the case, I had the spot poulticed, and then well rubbed with camphor and belladonna: under this treatment the pain and tenderness at once disappeared.

Upon examining to-day the patient's

heart, I find its action slightly rapid and the sounds sharp, but no murmur. The patient is still rather weak, but her menses are regular, her tongue uncoated, and her urine free from albumen. She has no uterine symptoms. What is the matter? you will ask me; what was the original attack, and what state of things have we to deal with to-day?

At first sight this case looks like one of acute, subacute, or chronic rheumatism, but it is in reality, I am convinced, none of these, but rather an example of what is variously known as rheumatic gout, arthritic fever, or rheumatoid arthritis. I prefer the last name.

Rheumatoid arthritis, as seen in the light of modern clinical experience, is an affection *sui generis*, unlike rheumatism or gout, and having a distinct clinical history. Why do I call this so positively a case of rheumatoid arthritis? Because (1) the difficulty originated gradually,—was, in fact, a whole winter in starting, there being no history of any acute seizure; (2) the disease began in the small joints, and only extended to the larger ones late in the progress of the malady; and (3) on account of the absence of any febrile symptoms. In the gradual approach of the malady, in its preference for the smaller joints, and in the comparative absence of fever we have the three most distinguishing traits of rheumatoid arthritis. We find also corroborative facts in the condition of the heart. The heart is sound. So it is in rheumatoid arthritis, and so it is not in any other form of rheumatism. This condition of rheumatoid arthritis has brought on a state of permanent joint lesion,—an enlargement in the ends of the bones, so that the surfaces of the ends of the small bones are polished and irregular, causing them to grate when rubbed together. There has, in short, been a sort of ivory-like degeneration, which is characteristic of this malady.

What was the extraordinary local lesion which made its appearance week before last? I am convinced that it was simply an extension of the characteristic morbid process, such as already existed in the joints, to the tissues surrounding the ovaries, uterus, and lower part of the abdomen. This, you will say, is very strange. How can rheumatoid arthritis extend to the peritoneal sac and the neighboring

organs? I give this explanation of the fact because I can think of none other. I cannot explain the rapid appearance and disappearance of the local peritonitis except in this way. There was no uterine affection whatsoever. *The local inflammation was a local expression of rheumatoid arthritis.*

What has been my mode of treatment? How first did I treat the peritonitis? As I said above, I first had the abdomen poulticed, and then rubbed with belladonna and camphor. Under this treatment the inflammation had entirely disappeared in three days; and yet I do not know that it is fair to attribute this cure entirely to the local applications. As that inflammation was coincident with a fresh attack of rheumatoid arthritis, I had the patient placed first on salicylic acid, and then on salicylate of sodium. The effects of this latter treatment were very striking. On the three days during which the peritonitis was present, the temperature was 104° , 103° , and $102\frac{1}{2}^{\circ}$. On the fourth day it fell to 100° .

This has been my first trial of salicylic acid in cases of rheumatoid arthritis; at least it is my first in subacute cases. Whether it will have the same excellent results in chronic cases of this disorder yet remains to be seen. I tried it for a short time last year in a chronic case with but negative results. I think that salicylic acid is more valuable, perhaps, in cases of acute and subacute rheumatoid arthritis than in acute or subacute rheumatism. The more chronic the case of rheumatism the less likely is it to do good.

As I have told you before, I prefer the salicylate of sodium to salicylic acid. It is better borne by the stomach, and may be given with more absolute safety. We mix the salicylate with compound spirit of lavender, glycerin, and water, and give ten grains four times a day. I will order the smaller joints to be regularly painted with iodine, and I will have the larger joints, which are stiff and swollen, blistered.

CEREBRAL EMBOLISM WITH CANCER OF THE HEART.

You no doubt remember my bringing before you five or six months ago a series of cases of brain-disease. One case in particular, you will recollect, I determined to be one of embolism of the middle cerebral artery with disease of the

heart. I said at the time, in connection with the case, that the collateral circulation would be established, and that the patient would probably get well. As far as the brain-trouble was concerned, I was right. From being at first afflicted with complete loss of power on one side, and partial loss of power on the other, the patient recovered so far as to be able to walk about the wards. Just as the effects of the embolism, however, were beginning to disappear, the symptoms of heart-disease became prominent. The mitral disease caused congestion of the lungs, and the patient had two severe attacks of hæmoptysis. After the second hæmorrhage I found a spot of local dulness in the chest, showing that there had been extravasation of blood. A day or two after this examination the man died suddenly.

I bring before you to-day his heart and brain, that I may examine them with you. Let us first examine the brain. After excluding the question of clot, you will remember, I told you that the embolic plug was undergoing absorption. You see there is not a single trace of clot or inflammation here, nor is there any plug in any of the vessels. The left corpus striatum is a little softer than the right. This is the only sign of its presence left by the embolism. This case shows how a pure cerebral embolism is likely to get well, viz., by absorption of the plug and establishment of a collateral circulation. The slight amount of softening and of tissue-change shows that the circulation was interfered with by a plug.

Why could it not have been a case of congestion of the brain? Congestion of the brain rarely gives rise to such persistent paralysis. Congestion certainly would not have brought on hemiplegia,—for the other side of the man's body was so slightly affected that it was undoubtedly an instance of hemiplegia. So much for the brain.

The heart presents a rare condition. In the first place, the mitral valve is so thickened that it is kept permanently open. This mitral thickening has had an exceedingly unusual cause. There is not so much thickening of the valve as thickening under the valve. This thickening extends into the body of the ventricle. There is, in fact, a tumor in the body of the ventricle. This tumor extends entirely through the septum of the ventricles into the right

cavity. This tumor, by its interference with the functions of the heart, has produced mitral disease.

I cannot be positive about the nature of this growth, but I think it is cancerous. It may or may not have been of syphilitic origin. (The patient had a history of venereal disease.) This must remain an open question. It is very strange, but the patient presented during life no symptoms of this tumor. There was entire absence of pain. The only symptom which I noticed, and which perhaps ought to have suggested some such disorder, was the pale, cachectic look of the man. Cancer of the heart is a disease of extreme rarity. This specimen should therefore have for you a peculiar pathological interest.

HYSTERIA WITH LUNG-SYMPTOMS SIMULATING THOSE OF PHTHISIS.

B. H., 19 years of age; single; a sewing-girl. Her previous history is not altogether clear to us. However, since leaving the hospital last August, she has suffered frequently from cough, pains in the bones, and sore throat. She was admitted a second time to the wards on January 17. Upon admission, her temperature was 101° , pulse 120, and respirations 46 to the minute. She was placed upon diaphoretics and quinia, and under the use of these remedies her sore throat and bronchitis rapidly disappeared. We were greatly surprised to find that upon one occasion about two weeks ago the patient herself scored a temperature of 109° . With this exception, plainly due to freak or mistake, her temperature has not at any time departed much from the normal. The patient has lately had several severe hemorrhages, during the course of one of which she lost as much as a pint of blood.

What have we, then? A history of cough and acute chest-trouble, followed by several copious hemorrhages. The woman has clearly an hysterical diathesis. You can tell it from her look and from that little freak of scoring a temperature of 109° . Her menstruation has been irregular for a long period,—irregular, not arrested; there has been no amenorrhœa.

Let me examine her chest. Anteriorly, on the right, the resonance is slightly impaired; so, too, posteriorly. On the left side, the resonance is good both in front and behind. Auscultation shows some prolongation of the expiratory murmur on the right side both anteriorly and poste-

riorly, but no râles. On the left side the respiration is distinct. All the phenomena are limited to the upper part of the right lung. These signs have existed from the time we first saw the case. I find upon further questioning that the girl has had a little cough for a long time, and has been of late years losing flesh considerably.

What would you say was the matter with her? Has she consumption? At first sight there seems to be no doubt of it. Why, you will ask, should I have the least doubt of it? I will answer that I not only have a doubt, but that I even do not believe she has consumption. And I will tell you why I say this. I have lately seen four or five hysterical women troubled with hemorrhage from the lungs. In these women, soon after the hemorrhage was over, the local signs of slight consolidation made their appearance. I thought at first that I had come across a new clinical fact,—when, upon chancing to turn over the leaves of a recent French journal, I found twelve cases recorded in which the hysteria had been accompanied by symptoms resembling those of phthisis, viz., hemorrhage and consolidation.

How am I to determine whether or not there is consumption in this case? Thus far the physical signs do not help me, because they are only on one side. If they existed on both sides, I should unhesitatingly call the case one of phthisis. As it now stands, several facts go against this explanation. In the first place, the even temperature recorded is strongly in favor of hysterical lung-symptoms and not those of phthisis. Then, again, there has been very little cough, and scarcely any expectoration. The looks and actions of the patient are those of an hysterical subject.

But this question is not yet thoroughly understood: must it remain unsolved? Not long, I hope. We will make accurate physical examinations,—note how far the signs of consolidation extend. (They now extend to the second rib; there are no râles when the girl is free from hemorrhage.) If the physical signs are steady, or if they gradually pass away, I will call it hysteria. If the physical signs increase, and the râles and harsh murmurs extend downwards, I will know I have to deal with consumption. If the temperature-record is steady, it will be favorable to the hysterical view. If the record becomes fever-

ish, with evening exacerbations, I shall know that tubercles exist. If the girl's courses were entirely absent, I might say that the hemorrhages were vicarious; but, as the menstruation is only irregular, I cannot lay much stress upon that view.

How shall we treat the case? She is taking muriatic acid and the tincture of the chloride of iron. I will have blisters applied over the right apex. The girl has already been repeatedly dry-cupped in that region. Joined with this treatment we will see that she gets good, nourishing food, and that her uterine functions are regularly and fully performed. Though we intend to keep a watchful eye upon this case and note carefully all changes before reaching a positive conclusion, I may say to you even now that I am quite confident that there are no tubercles developed or developing in the lung, but that the case is one of an hysterical nature.

ORIGINAL COMMUNICATIONS.

RATIONAL TREATMENT OF LEAD-POISONING.

BY GEORGE HAY, M.D.

A CASE of poisoning of land, of the plants growing thereon, and of the cattle feeding on the plants; a case in which I have been recently consulted as a chemical expert, occurring a few miles from this city; an extensive case of poisoning occasioned by the vapors escaping from the chimneys of the Pennsylvania Lead Company's Smelting Works, together with my own observations of several cases of saturnine poisoning in human beings, have led me to reflect upon that form of poisoning, and the treatment usually pursued in such cases. My reflections have driven me to the conclusion that the routine treatment of lead-poisoning is in some respects irrational and contra-indicated both by common sense and by science. Permit me, therefore, to suggest what appears to me a method of treatment at once more sensible and scientific. I am quite aware that chemistry is held in considerable disrepute and treated with some measure of scorn by many members of the medical profession; but I am also aware that scorn is only in many instances the outward expression of imperfect knowledge, and that as the knowledge increases

the scorn diminishes. The real knowledge of chemistry possessed by many medical men is just sufficient to prevent them from prescribing incompatibles in the medicines exhibited, and while this amount of knowledge is doubtless not to be regarded with contempt, it is certain that it does not by any means constitute the entire range of the applicability of chemistry to the rational and intelligent practice of medicine. Properly understood, there is a vast deal of chemistry in both physiology and anatomy, and these three are the sciences upon which the art of medicine is founded. Any one of these three being removed, the structure is incomplete. In the application of science called the art of medicine, there is, as in general science itself, an interdependence and consensus which ought never to be lost sight of by any one who would attempt to practise medicine intelligently. Chemistry sends its ramifications throughout all nature, and therefore, notwithstanding the disfavor of many members of the profession, I am ready at all times to maintain that no deep insight into the workings of nature in the animal body will ever be obtained until the chemistry of life is better understood and more highly appreciated than it is at present. Scorn of any knowledge is opposed to the spirit of philosophy. Let us, therefore, lay scorn aside, and look at this matter of lead-poisoning from a philosophical standpoint.

Acute saturnine poisoning is usually occasioned by the ingestion of an overdose of some more or less soluble compound of lead, and presents certain phenomena. The first effect seems to be irritant, as there is generally gastric and abdominal pain; in fact, in many instances there is violent colic. The other symptoms of acute lead-poisoning I shall not at present dilate upon, my purpose being merely to distinguish between the acute and the chronic forms of this disease. Since acute lead-poisoning is due to the presence in the alimentary canal of a more or less soluble irritant poison, the causal indications for treatment plainly point to two methods,—the first being the entire removal of the poison from the stomach and intestines, and the second being the neutralization or rendering inert of the poison, if the first is found to be impracticable. Both of these things may be attempted simultaneously. To remove the

lead salt, therefore, we attempt purgation, and to render it inert we administer something which, by chemical reaction, shall form an insoluble salt of lead. Both of these indications are very well met by the administration of the sulphate of magnesium, which is both a cathartic and an antidote to the poison, first rendering the lead salt insoluble, and next carrying it off by the bowels. Should the bowels fail to act, an enema may be administered, and to remove the poison from the stomach an emetic of sulphate of zinc, provided free emesis has not already occurred owing to gastric irritation. The administration of white of egg and of milk, by forming for the time insoluble albuminate and caseate, is also a valuable adjunct. The order in which these measures should be resorted to will depend upon circumstances. All this is perfectly rational in cases of acute poisoning by lead; but in my opinion in cases of chronic lead-poisoning such treatment is not only next to useless but is positively pernicious. In acute lead-poisoning the aim of the physician is first to render the lead insoluble, in order to prevent its absorption, and then to remove the so-called insoluble substance from the system, lest in time it should become gradually soluble and be absorbed. It ought to be remembered that even the sulphate of lead is not absolutely insoluble, but only relatively so, and that if allowed to remain it will in time produce the symptoms and effects of chronic saturnine poisoning. Sulphate of lead is to some extent soluble in the gastric juice, and also in the *succus entericus*, and moreover it has been proved by Flandin to produce the effects of chronic poisoning even when used externally as an ointment. From all this it follows that in the treatment of acute lead-poisoning regard should always be had to the probability of chronic effects following upon the acute manifestations.

Let us consider now the chronic form of lead-poisoning. This form of lead-poisoning is due to the absorption of lead into the tissues and organs, and differs from acute poisoning mainly in the fact that while in the acute form of the disease the great bulk of the poison is really outside of the body and producing in the various parts of the alimentary canal its own peculiar species of irritation, modified to some extent by the action of the smaller portion, which is absorbed; in the chronic

form nearly all the poison is inside of the body and producing its own peculiar physiological effects in the deterioration of the tissues and organs. This difference in the locality of the poison ought at once to indicate rationally a different mode of treatment, and, to some extent, it is generally believed that this is attempted in the usual treatment of chronic lead-poisoning. Precisely at this point it is where the usual treatment is, in my opinion, founded upon a mistake. I now quote from "Taylor on Poisons:" "When the poison is once absorbed, nothing can be done beyond trusting to its elimination by the urine and other secretions. The use of iodide of potassium has been strongly recommended on the ground of its dissolving the lead and carrying it off by the kidneys, but," Taylor very pertinently adds, "there is no satisfactory evidence that it has in any case accelerated a cure."

Now, in chronic lead-poisoning it is just by the kidneys and skin and alvine dejections that the lead is eliminated; principally, however, by the kidneys. And in what form? In the form of *chloride of lead*, or of oxide dissolved by chlorides or other alkaline salts. That is to say, nature eliminates the lead by making it *soluble* in water, in the form of chloride of lead, and then removing it by the urine. It seems to me proper that we should follow the path indicated by nature in such a case. Yet, guided by prejudice instead of by reason, we follow an entirely different direction. We administer (and this is the most popular treatment) iodide of potassium with the view of rendering the lead soluble. A simple experiment will show that such treatment is absurd. Make a saturated aqueous solution of chloride of lead, and now add a little of a solution of iodide of potassium: the result is a precipitate of iodide of lead, a substance much less soluble than the chloride. But it is in the form of chloride that the lead is eliminated, and therefore when we give the patient iodide of potassium we simply render the lead less soluble than nature would make it, and instead of hastening its elimination we endeavor to retain the poison in the body. It is found that natural waters containing chlorides in abundance render lead in the form of pipes or cisterns soluble, and hence become dangerous as potable waters when stored in or passing through such

vessels. All this can only point to a single conclusion, and that is, that instead of exhibiting iodides we ought to administer chlorides. But, besides its tendency to retard the elimination of the lead, iodide of potassium is contra-indicated on another ground. It is well known that in chronic lead-poisoning there are extreme emaciation and tremulousness. Now, iodine, when its use is long continued, will produce progressive emaciation and nervous symptoms in addition. Iodine is not a reconstructive element at all, and is directly contra-indicated where emaciation exists, excepting where that emaciation is due to syphilis, upon which it appears to exert a specific action. In cases of lead-poisoning complicated by syphilis, of course it would be very proper to administer iodides.

M. Melsens states that in treating lead-poisoning by iodide of potassium the metal was found in the urine, and arrives at the conclusion that its presence in that secretion was due to the action of the iodide. Such reasoning is not logical. The metal would have been found in the urine in any case; for, as above stated, nature eliminates it in that way, and it would have been found more abundantly in the urine had no iodide been exhibited, and, I believe, more abundantly still had chlorides instead of iodides been employed. I am quite aware of the effect of iodine upon secretion, but then solution must always precede secretion. Nature, eliminating the lead as chloride, insists upon the administration of chlorides. All that the best physician can do in any case of disease is to assist nature; but by the administration of iodides in lead-poisoning he is not assisting, but thwarting nature. Of all the chlorides, that which seems to be most suitable to the economy is the common chloride of sodium. It might be administered in cases of chronic lead-poisoning in doses of one drachm three times a day, more or less, but never in quantity to occasion nausea. It is rapidly eliminated by the kidneys, and would, I think, speedily eliminate the lead along with it. It is much cheaper than iodide of potassium, and is not liable to its therapeutic objections. It might be continued for a long time without running down the strength of the patient; indeed, it generally has an opposite effect. If a saline hydragogue cathartic is required, it

should be chloride of magnesium or citrate of magnesium, not sulphate of magnesium. No sulphates of any kind whatever ought to be used in chronic lead-poisoning, except the sulphates unavoidably present in the food.

The other great emunctory whereby lead is eliminated from the body is the skin. A tepid bath ought, therefore, to be employed daily, for three reasons, viz., to keep the skin active, to remove whatever lead has been excreted in that way during twenty-four hours, and to prevent its re-absorption. The use of a soft flesh-brush would be a great assistance to the bath by removing mechanically from the skin any lead, in whatever form, adhering to its surface. Sponging of the body might be substituted if the patient is too weak to bear the fatigue of bathing. During the course of recovery from chronic lead-poisoning, to improve the nutrition and build up the strength of the patient, analeptics, nervine tonics, and nutrients are indicated, such as *tinctura ferri chloridi*, *liquor strychniæ* (not the sulphate), or *tinctura nucis vomicæ*, *tinctura cinchonæ*, or the alkaloid quinia (not its sulphate), together with animal broths, milk, eggs, etc. In addition to this, the patient ought to be carefully guarded against the causes, whether evident or occult, of the poisoning. His occupation, if of such a nature as to expose him to the risk of contamination by lead in any form, ought at once to be abandoned. The water and food supplied to him should be known to be free from lead; and, in short, every reasonable precaution ought to be taken to avoid adding to the amount of lead already present in the system. He should drink filtered rain-water or distilled water, but not any natural water containing sulphates in abundance, as is the case with the water of the Schuylkill, for this would detain the lead even more than iodides.

It is the custom of medical men, when advancing any new doctrine in medicine, to support their reasonings by an account of cases which have come under their own observation; and a very laudable custom it is. But I regret that the very nature of the case prevents me from following this praiseworthy custom. I cannot manufacture cases of chronic lead-poisoning in the human subject for the convenience of study, and I believe also that the number of cases of chronic lead-poisoning, as com-

pared with some other diseases, is small. No one man has opportunities of observing and treating lead-poisoning in a sufficient number of cases for experimental purposes, unless, perhaps, he be fortunate enough to hold a position in some large hospital. I therefore wish to recommend this treatment by chlorides on rational rather than on experimental grounds to the notice of the profession at large, in the hope that in the course of time sufficient experimental data may be forthcoming to justify its soundness in principle and establish it upon a broad basis of fact. Having thus presented my reasons, I leave the experimental part to the profession, who will, I doubt not, give it a fair and impartial trial.

ALLEGHENY CITY.

CASE OF OPIUM-POISONING—USE OF A LARGE AMOUNT OF SULPHATE OF ATROPIA HYPODERMICALLY—RECOVERY.

BY JULIO J. LAMADRID, M.D.,
Brooklyn, N. Y.

AT 7.30 P.M., December 1, 1877, I was called to see Mrs. M. M., 54 years of age, who at about 2½ P.M. of the same day had taken one ounce of laudanum. According to her account after recovery, soon after taking the poison she went to sleep, and slept till she was awakened (5½ P.M.) by the ringing of her door-bell. When she got up, she felt confused and queer, but she managed to go to the door and let one of her daughters in. During her walk from her bed to the door she felt her limbs very heavy and weak, and at the same time was very sleepy. Her daughter noticed at once how strangely she acted, but never suspected or discovered that her mother had taken poison till about 7 o'clock P.M. At the time of my arrival (7.30 P.M.) she was entirely conscious. The pupils were very much contracted, almost to a pin's point. Pulse 96, strong and full. Skin hot, and sweating profusely. She was calm, but very anxious not to have her case reported in the daily papers. I ordered at once an emetic of xx grains each of sulphate of zinc and pulvis ipecacuanhæ, to be repeated in twenty minutes, and gave her a hypodermic injection of x (10) minims of sulphate of atropia from a solution of gr. i ad ʒi.

8.30 P.M.—Patient was more drowsy, but able to walk supported by one person. A second dose of the emetic acted pretty freely. No perceptible change in the pupils. Injected xv minims, or ⅓ grain, under the skin. She also took per mouth a large quantity of strong

infusion of coffee. Shortly after the last injection the pupils dilated somewhat.

9 P.M.—After a consultation with Dr. Jos. H. Hunt, we decided to increase the atropia to xx minims, and accordingly another hypodermic injection of xx minims was given at once. Soon after this we took her out of doors and walked her around, in order to keep her awake as much as possible. We also gave her some more of the coffee.

9.30 P.M.—The pupils were now fully dilated. Pulse somewhat more frequent and weaker, for which we gave her a teaspoonful of spiritus ammoniæ aromatici, together with a teaspoonful of brandy; also xx minims of atropia hypodermically.

10 P.M.—Patient semi-conscious, but was kept partially awake by walking, flagellations, etc. We were unable to make her swallow any more of the coffee or the aromatic spirits of ammonia and brandy. Increased atropia to xxv minims, or ⅓ grain; injected it immediately under the skin of the left arm. The face and finger-nails were now of a dusky hue. Pulse 108, somewhat weak, and respiration between 12 and 14 per minute.

10.30 P.M.—She was now completely comatose. We gave another hypodermic injection of xxv minims of atropia.

10.50 P.M.—Strongest faradic currents applied to phrenic nerve failed to awaken any response whatever. Previous to the application of electricity another injection under the skin of xxv minims of atropia was given.

11.10 P.M.—Patient for the first time was laid in bed. Pulse 110, but weak. Respiration between 8 and 9 per minute, stertorous, and at times irregular. Injected hypodermically ⅓ grain of atropia.

11.30 P.M.—At this time xxv minims of atropia were injected again. Pupils widely dilated and irresponsive. We now washed out the stomach with stomach-pump. Over a pint of strong coffee, together with two table-spoonfuls of brandy, was administered.

11.50 P.M.—Hardly any change. Pulse 100, and a little stronger. She could not be aroused. Gave hypodermically ⅓ grain of atropia.

12.10 A.M.—Respiration 6 per minute, hands cold, and pulse small and weak. Injected xx minims of spiritus ammoniæ aromatici hypodermically. Also increased atropia to ⅓ grain, which was given immediately as before. Soon after this the respiration increased to 9 per minute, and the pulse became stronger, 108 per minute.

12.40 A.M.—No change.

1 A.M.—The pulse and respiration had both diminished again. Injected hypodermically, as before, xxx minims of atropia; also an equal dose of spt. amm. aromat. In a little while the pulse became stronger, 108, and the respiration 11 per minute. Cornea and conjunctiva were still insensible.

1.40 A.M.—There was noticed again a fall-

ing off of the pulse and respiration. Pupils widely dilated; in fact, they had scarcely altered any, but had remained in that state throughout the whole night. As there were no signs of consciousness, and all the above symptoms had as before diminished somewhat, we repeated atropia hypodermically as above, with similar effect.

2.50 A.M.—At this time, after shouting and slapping the patient, and having tried other means to arouse her, we soon desisted, having failed to notice the least signs of sensibility. The pulse and respiration had decreased again, for which we repeated another $\frac{1}{4}$ grain of atropia, also xxx minims of spt. amm. aromat. In a little while the effect seemed, for the first time, to be more permanent.

3.30 A.M.—As the respiration (13) and the pulse (100 and weak) had remained stationary since our last observation, but no signs of sensibility were as yet visible, it was thought best to try another xxx minims of atropia hypodermically, which we did. In a little while another attempt was made to arouse the patient from her stupor. To our surprise, but great delight and satisfaction, she opened her eyes for the first time, but closed them almost immediately. From this time forth, however, she could be easily aroused. The respiration increased, and the pulse became moderately strong.

5 A.M.—She attempted to answer when spoken to. Later on ($5\frac{1}{2}$ o'clock), when we left her, she was dozing quietly. The respiration was then full and natural. Skin warm, but very dry, and pulse 100. Saw her the next morning at $10\frac{1}{2}$ o'clock. On examination found her somewhat restless and delirious. Headache, skin hot, and face covered thickly with the characteristic belladonna eruption. Pulse 110, strong and full. Temperature under the axilla $101\frac{1}{2}^{\circ}$ F. She had a wild, staring look. Tongue looked thick and dry. For a time she was unable to recognize any of her friends. She scratched herself incessantly, and complained of a terrible itching all over her body, especially around the nose and face. Ordered cold applications to the head, a mustard plaster to the back of the neck, and for medicine the following mixture:

R Chloralis, ℥ii;
Potassii bromidi, ℥iv;
Syrupi flores aurantii,
Aqua, aa f℥j.
Ft. mistura.

Sig.—Take a teaspoonful every hour till three doses are taken or sleep is produced; after that, every two hours if necessary.

Saw her again at 8 P.M. On inquiry, learned that she had slept for three hours after taking three doses of the mixture. When she awoke she was perfectly rational, and seemed to remember or understand her present condition. The eruption on the face looked about the same as it did in the morning, and the pupils

were still dilated. She did not complain particularly of any dryness of the throat or mouth. The sensation of itching was very intense; in fact, she said she felt like tearing herself to pieces. Pulse 96, and temperature a little above normal.

The next morning she was up and apparently quite well, but she still complained of the itching and of disordered sight. The pupils were still somewhat dilated. The belladonna rash also seemed to be fading away gradually. She had passed urine abundantly several times during the previous day and night. After this Mrs. M. suffered from no further symptoms.

Remarks.—On looking over the literature of this subject back from the year 1870, I have been unable to see or read of a case in which such a large amount of sulphate of atropia was given to a single person and under similar circumstances. The nearest approach to it I know of was in a case lately reported by Dr. J. B. Leary in the Proceedings of the King's County Medical Society, vol. ii. No. 3. The case is that of a man who at 4 P.M. one day took thirty grains of the pure extract of belladonna. Three hours had already passed by before Dr. L. saw him. When he arrived at his house he found him delirious, and he soon after became comatose. In the morning (fourteen hours after taking the poison), however, he awoke and held a conversation with his wife, and a little later with the doctor himself. In a little while he went to sleep again and became semi-comatose, but finally recovered under a proper treatment.

It will have been noticed that, although the atropia was given frequently and in over-doses, at no time did it produce any unfavorable effect. That it increased the number of respirations after each hypodermic injection has already been observed, but it seems that this improvement was very gradual in its action, when the large amount that was used in each dose is remembered. Such being the fact, we doubt very much if our patient would have been rescued from death if we had not been firm and bold in the free use of this powerful drug.

Prof. H. C. Wood's chapter on the employment of sulphate of atropia in opium-poisoning, in his excellent treatise on "Therapeutics, Materia Medica," etc., 1st edition, pages 225-6, says, "The first injection of atropia should be of such size that it could not possibly do harm; and

one-fortieth of a grain is in most instances a fair commencing dose. Very generally several repetitions of these are necessary, and the delicate practical point is to decide how often these repetitions shall be indulged in. I think that very frequently too much atropia is given, and believe that often a great deal of firmness is required in these cases not to use it too freely, especially since reliance is generally placed upon the pupils as a guide. They are, however, a very unsafe guide, as is apparent when it is remembered that, whilst opium contracts them by influencing the nerve-centres, atropia probably dilates them by acting on the peripheral nerves."

This practical point was well illustrated in our case: had we been guided by the dilatation of the pupils alone, the patient would probably not be alive to-day. That we did not err in giving so much atropia is shown, we think, by the ultimate recovery of this patient.

In conclusion, we will add that our patient received, between 8 P.M. and half-past three o'clock the next morning, fifteen hypodermic injections of atropia, amounting in all to three hundred and sixty-five minims, or equal to three-quarters of a grain and $\frac{1}{8}$ grain. The solution (gr. i ad f $\frac{3}{4}$ j) employed was freshly prepared by Mr. Thomas Swift, a reliable chemist and pharmacist of this city.

295 FRANKLIN AVENUE.

NOTE ON THE USE OF BICARBONATE OF SODIUM IN BURNS.

BY E. J. PRING,

Acting Assistant-Surgeon U.S.A.

HEARING that bicarbonate of sodium possesses a remarkable property for allaying the pain caused by burns, I resolved to try its virtues. Not long ago I attended a lady, the right side of whose face was very severely burned with boiling fat. Having made a saturated solution of the bicarbonate, I applied cloths wet with the solution, and kept them moist without removing them. In a very short time the pain was relieved permanently.

I continued the application for about twenty hours, and afterwards used simple dressing. The wounds healed quickly. I have used the bicarbonate on several other occasions, and with equally good results.

TRANSLATIONS.

CASE OF GENERAL ANÆSTHESIA.—Dr. Adolph Strümpell, of Leipsic, communicates the following case (*Wien. Med. Presse*, 1877, p. 1484). A youth of sixteen was admitted to the hospital, October 11, 1876, complaining of frequent attacks of giddiness. Careful examination showed irregularity of breathing and pulse as the only objective symptoms. During November decided sensitiveness under pressure began to show itself along the spine, with jerking of the lower extremities, at first bilateral, later more marked upon the right side. By the beginning of December a right-sided hemianæsthesia was established, similar to the typical so-called hysterical hemianæsthesia. It differed in one respect, however, from the latter, in that while all sensibility on the right side of the body, all sense of smell on the right side of the nose and of taste on the right side of the tongue, were absent, and while hearing in the right ear was almost entirely lost, the right eye was perfectly intact. The left eye, on the other hand, was perfectly amaurotic. A little later, motor paralysis of the extensor digiti in the right hand and paralysis of most of the muscles of the right leg appeared, causing this limb to be dragged to a marked degree. In January, 1877, further disturbances of sensibility occurred, so that the patient at that time presented the following symptoms. 1. Complete cutaneous anæsthesia in all parts to every stimulus. 2. Similar anæsthesia in all accessible mucous membranes. Desire to empty the bowels and bladder was lost, and the peculiar sensations of hunger and thirst appeared to be absent. 3. Complete paralysis of taste and smell, amaurosis of the left eye, and deafness of the right ear. 4. Complete lack of muscular sensation. The patient, when his eyes were closed, could be carried about the room without noticing it. Lack of the feeling of contraction and of weariness in the muscles. 5. Reflex sensibility of the skin was preserved at some points and lost at others: thus, reflex sensation in the conjunctiva and in the vascular system was preserved, while inspiratory movements could not be brought on by pouring water down the back, nor could the patient sneeze.

Movements in the unparalyzed parts could only be made while the patient's eye was kept fixed upon them. When the eye was

bandaged, great uncertainty of movement resulted. Neither movements of single fingers nor complicated manœuvres could be performed. The patient attempted to guide his movements by the ear when the eye failed him.

The patient's connection with the outer world of sensation was kept up through two avenues of sense alone, one eye and one ear. If these last functions were suspended, if his only seeing eye were closed or his only hearing ear were stopped, deep sleep invariably resulted at the end of a few minutes. It was also easily possible to put the patient to sleep artificially, at any time of the day, by simply removing every sensory excitation. Herein is evidently a fact strongly confirmatory of the theory of sleep put forth by Pfüger and Heubel. The patient could only be awakened by an irritant in the form of light affecting his seeing eye, or by one in the form of sound affecting his hearing ear. x.

SYPHILITIC INFECTION OF AN INFANT AT THE TIME OF BIRTH.—Prof. Weil (*Wien. Med. Presse*, 1877, p. 1483) relates the following case. A woman, who was known to have had flat condylomata about the labia, and who, when examined later, showed engorgement of the post-cervical, epitrochlear, and inguinal glands, gave birth to a perfectly healthy child. Four weeks later a sore appeared on the infant's face at the root of the nose. The latter continued healthy in other respects seven weeks longer, and then, eleven weeks after birth, a general maculo-papular syphiloderm made its appearance on the body, accompanied also by other undeniably syphilitic lesions. The infant recovered entirely under the use of appropriate remedies. Dr. Weil claims this as a case of *infectio per partum*, on the following grounds. It was a case of acquired, not hereditary, syphilis. The sore on the forehead was a true initial lesion, occurring after four weeks' incubation, and followed after a "secondary incubation" of seven weeks by a characteristic eruption, such as is observed in the syphilis of adults. The well-nourished condition of the child, as well as the absence of such usual symptoms of hereditary syphilis as coryza, indurations of the palms and soles, etc., is also in favor of the theory of infection at birth. Finally, it would be contrary to experience to assert that a mother suffering from such acute syphilitic symptoms should give birth to a child heredita-

rily diseased in whom the symptoms should occur so long after birth. The position of the initial lesion just where the child's head pressed upon the mother's diseased genitalia during parturition is an additional proof of the origin of the disease. x.

TREATMENT OF ERECTILE TUMORS.—Dr. Notta, having had an opportunity of treating a large number of erectile tumors, gives his ideas as to the various methods available for this purpose in *L'Année Médicale* (1877, No. 12). He divides them into two classes, cutaneous and subcutaneous. When called upon to treat the superficial variety in children who have not been vaccinated, vaccination offers perhaps the best method of treatment. A number of needles are dipped in vaccine matter to the extent of six millimetres, and this is allowed to dry. They are then thrust into the tumor to the depth of four millimetres, and at a distance of three millimetres from one another. Care should be taken to insert a row along the line of separation between the tumor and the healthy skin. After remaining in place about an hour, the needles are withdrawn, and some days later the punctured locality becomes the seat of a confluent vaccinal eruption. A month after, the eruption has entirely disappeared, or if there still remains a point here and there the application of a white-hot needle will finish the operation.

When for any reason vaccination cannot be practised, the double or multiple-crossed ligature may be employed with success, according to the method of Rigal de Gaillac. The tumor is strangulated by this procedure; the ligatures drop out at the end of four to eight days, leaving a granulating ulcer, which heals slowly. As regards the treatment of subcutaneous erectile tumors, one very good method is that by strangulation with vaccine-impregnated ligatures; other methods are the white-hot needle, or the injection of the perchloride of iron. Dr. Notta continues his observations in a subsequent number of *L'Année Médicale*, and gives other methods of treatment. x.

ALBUMINURIA DURING PREGNANCY.—C. H. Petit (*Centralbl. f. Med.*, 1877, p. 784; from *Annales de Gynécologie*) finds albuminuria a frequent condition during pregnancy, labor, and after delivery. Usually it appears during labor rather than in pregnancy. The albuminuria of labor is

to be distinguished from that of pregnancy; young primiparæ are particularly disposed to it. The larger the child the more abundant is the proportion of albumen in the urine. x.

RESORPTION THROUGH THE SKIN.—R. Fleischer (*Cbl. f. Med.*, 1877, p. 781) employed an especial apparatus in his experiments, composed essentially of a rubber covering made to fit tightly over the arm and admitting a certain quantity of fluid between itself and the skin. Attached to this was a glass tube to serve as an indicator. When water was experimented with, no absorption took place. With alcohol the same negative result was obtained. Chloroform inflamed the skin, which after five minutes' contact burned severely and became excoriated and scaly. Experiments wherein a solution of iodide of potassium or salicylate of sodium (1.2 to 1.3 per cent.), or of sulphindigotate of sodium in the same strength, was employed, gave a similar negative result. Rubbings with the ointments of iodide of potassium, veratrum, quinia, and morphia were employed; but the passage of these substances through the skin evidently did not take place, since no trace of them could be found in the urine. Inunctions with oleate of mercury followed by bandages for sixty hours gave traces of this metal in the urine. x.

MAMMARY CHANCRES.—At a recent meeting of the Société Médicale des Hôpitaux (*La France Méd.*, 1877, p. 735), M. Alfred Fournier presented two rare cases of mammary chancre. The first was that of a woman who had a phagedenic chancre on each mamma, with concomitant axillary adenopathy. Cause, nursing a syphilitic infant. In five days these sores had grown to be two or three centimetres in diameter, and were excavated to such a degree that the one on the right breast could contain a bean, while that on the left breast presented a cavity one to two centimetres in depth. These might be termed boring chancres. Though these sores seemed at first so grave in character, yet within a month they were entirely healed. The treatment was both local and general. During the inflammatory period baths, emollient fomentations, starch poultices, etc., were used. Later, when the inflammation had subsided somewhat, iodoform powder was applied, while iron and quinine were given internally.

M. Fournier did not begin the use of mercurials until the end of the third week. He thought the credit of the cure due to the local treatment. Iodoform has no influence upon the cure of these sores until the period of acute inflammation has passed.

The second case was that of a woman who showed an extraordinary multiplication of mammary chancres. As a rule, these are few in number. As in the first case, these chancres were communicated by a syphilitic nursing infant. Altogether there were twenty-three, seven on the areola of the left nipple, sixteen on the areola of the right nipple. The question might arise, Were these lesions really chancres, or were they herpes? M. Fournier concluded them to be chancres for the following reasons. 1. They appeared after contact with a nursing who had mucous patches of the lips. 2. They resembled the syphilitic chancre. 3. They gave rise to multiple axillary adenopathy, well marked, indolent, non-inflammatory. 4. The subsequent phenomena justified the diagnosis.

In response to a question, M. Fournier said that the first case was followed by benign syphilis, the second by malignant. Formerly a mild and a severe syphilis were described, but at the present day syphilis is acknowledged to be always the same, the mildness or severity of its course depending upon the soil in which it is planted. Phagedæna is never the progeny of phagedæna. A case was quoted of a mason who had a small chancre, followed by benign syphilis. His wife contracted the disease from him, and suffered subsequently with a gangreno-ulcerative syphiloderm, lost her nose, part of the superior maxilla, the cranium became denuded, gummata of both extremities followed, and the woman finally succumbed, although under Fournier's care. x.

SUPPRESSED SECRETION OF MILK RE-ESTABLISHED BY ELECTRICITY (*Jour. des Sci. Méd.*, No. 12, 1877).—The current employed was mixed, and from an ordinary Gaiffe machine, the sponge being applied directly to the mammary gland so that the current should pass through it sometimes from above below, sometimes from within outwards. The length of the application was about twelve minutes for each mamma. After the fourth application the woman could give the breast twice, and from that day the secretion was established. x.

HERPES ZOSTER OF THE GENITALS.—Dr. Peltier, of Sedan, sends notes of the following case to the *Union Médicale du Nord-Est* (No. 11, 1877). The patient, a married woman, 48 years of age, subject to facial neuralgia, and who had begun to menstruate irregularly, was seized with pain in the groin and genital region. This lasted four days, and then a patch of large vesicles appeared on the right labium majus, covering a space of two or three centimetres, and situated on an erythematous base. Similar patches of eruption could be observed in the fold of the groin and about the cutaneous orifice of the inguinal canal. The eruption was undoubtedly herpes zoster seated along the distribution of the genito-crural branch of the lumbar plexus. Quinine was administered without much effect, and subsequently recourse was had to hypodermic injections of morphia, which quieted the pain without completely putting an end to it. At the end of about two weeks, the pain being still persistent, the patient suffered from an attack of metrorrhagia (not having menstruated previously during four months); the hypodermic injections were stopped, but the pain had disappeared with the beginning of the discharge, and returned no more. Dr. Pelletier suggests that the cause of the eruption in this case was either excitation of the uterus transmitted through the anastomoses of the lumbar plexus to the lumbar ganglia, or else compression of the genito-crural nerve by the tumefied pelvic ganglions. x.

DEAFNESS AS A SYMPTOM OF BRIGHT'S DISEASE.—Dieulafoy (*Soc. de Biol.*; ext. in *Berliner Klin. Wochens.*, 1877, No. 42) states that in twelve cases of nephritic disease he met with two of complete deafness, three of half-deafness, and two of disturbances of hearing of other kinds, tinnitus, etc. In some cases there was also more or less pain in the ear. In one case perforation of the membrana tympani was observed. Dieulafoy, who does not regard these complications as accidental, thinks them due to oedematous chronically infiltrating or hemorrhagic changes in the tympanic cavity and membrane. x.

ESMARCH'S METHOD APPLIED TO THE TREATMENT OF DISEASES OF THE EXTREMITIES.—In a lecture on this subject, delivered before the Berlin Medical Society (*Berliner Klin. Wochens.*, 1877, p. 647), Cohn recommends the use of Esmarch's

elastic bandage in the treatment of certain affections of the extremities, and gives notes of several cases treated in this way. The first was a subcutaneous phlegmon of the toe, with abscess, affecting primarily the toe, but involving most of the foot. The elastic bandage was applied according to the method laid down by Esmarch, but could only be borne fifteen minutes, on account of the pain which it produced. On its removal, and as soon as the normal circulation was once more established, an improvement in the affected part was observed. The patient could only be persuaded to submit to two more applications of the bandage, but was much improved thereby. The second case was that of a maid-servant, who had injured her arms by overwork so as to cause an inflammatory swelling, seated in the muscular tissue of the right forearm, and very painful. When the normal circulation returned to the limb, after the first application of the elastic bandage, the pain had in a great degree disappeared, and on the following day a second application was made, after which the patient returned to her work entirely cured. The third case was that of a child between three and four years of age, who had suffered for a year and a half with a white swelling in the knee. The treatment, which is of interest, and is detailed in full in the report of the lecture, ended, after two months, in recovery. x.

EXCRETION OF LEAD BY THE LIVER IN SATURNINE POISONING.—A. Annuschat (*Cbl. f. Med.*, 1877, p. 784; from *Arch. f. Exp. Path.*) found that, after the administration of one gramme of acetate of lead in solution by the mouth, the bile poured out through a biliary fistula contained lead in a few hours, and afforded as much as 0.0112 grm. within the succeeding twelve hours. In some experiments lead was also found in the contents of the stomach and intestine after death. Out of 0.5462 grm. lead taken, there was found after five hours still 0.4788 grm. in the contents of the stomach and intestine, after fourteen and a half hours 0.353 grm. In another series of researches acetate of lead was found in the bodies of rabbits for three to twenty days after administration. In the bile, however, lead was present only for a day or two after the last administration. In the liver, on the other hand, lead was found in considerable quantity for thirteen days. x.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 16, 1878.

EDITORIAL.

HYPODERMIC MEDICATION.

THERE can be no doubt that the addition of hypodermic medication to our means of combating disease was a very valuable one, but there is as little doubt that evil has been wrought by the abuse of the method. Not long since, a Western medical professor (and their name is legion) came under our care with his arms a mass of ulcers from hypodermic injections of quinine, not one of them having been really required or justifiable. It is not merely the danger of local trouble that is incurred in this method of administration, but there is always some risk of inordinate constitutional results.

A case is stated (*Louisville Med. News*, February 23) to have recently occurred in Washington in which death was produced by a third of a grain of morphia. This is, we believe, the smallest recorded dose of morphia which has proved fatal in the adult. Two cases of death from half a grain given hypodermically have, however, been previously reported. We once saw one-sixth of a grain injected into the arm of a woman cause unconsciousness in three minutes, with subsequent persistent and most alarming symptoms, which only yielded after a night's anxious and careful work. In that case a third of a grain would almost certainly have caused death. In our opinion, a fourth of a grain of morphia should be considered as the maximum hypodermic dose of the drug, not to be exceeded except under very urgent and peculiar circumstances.

No care can, however, in this case, absolutely insure against disagreeable consequences, and, whilst the risk is slight, it

should not be thoughtlessly taken. Indeed, the rule should be imperative not to employ hypodermic medication unless with some definite prospect of special advantage from the method of administration.

CORRESPONDENCE.

LONDON LETTER.

SUCH of your readers as were interested in the brief abstract of Prof. Burdon Sanderson's lecture, given in the last letter, may feel inclined to know a little more about the subject of the infective processes of disease. The next part of the subject taken up was the question of the existence of bacteria in the living organism. It has been proved that bacteria can enter the body by the pulmonary mucous membrane and by the lining membrane of the alimentary canal, and yet "the circulating blood never contains septic bacteria or their germs." An experimental investigation was made as to the existence of bacteria in the viscera. The abdominal viscera or rather the liver and kidneys of a healthy rabbit, killed quickly, were cut out and permitted to drop into boiling paraffine, which was then covered with fluid turpentine to prevent the possibility of contamination by the cracking of the cooling paraffine. When opened after a day or two the outer portion of the organs was found cooked of course, but within is a "soft red kernel of uncooked tissue." In this bacteria were always found in vigorous development, indicated by their large size, countless numbers, and active movements. The lecturer went on to say, "What is observed is (1) that by means of the portal circulation germs must be continually entering the general bloodstream; and (2) that no bacteria exist in the circulating blood, or at all events only a stray one here and there. The alternatives are, either that the bacteria are formed and are immediately afterwards destroyed (for no provision exists in the organism for their elimination), or that they are not allowed to germinate, *i.e.*, that the conditions under which they are placed in the living organism are such as to prevent their development. The question which of these alternatives is the true one, I shall not attempt to answer definitively. There are, however, considerations which seem to me to render the first of them more probable than the second." As to the fact that common septic bacteria cannot live in the circulating blood of a healthy animal there is no doubt. As to the why of this, various explanations have been ventured, but none can yet be accepted as satisfactory. In pleural and peritoneal inflammations in rodents it invariably happens that the exudation-

fluids contain swarms of bacteria, a fact which stands in a certain relationship to the existence of bacteria in the viscera, though not in the blood. Prof. Sanderson then went on to describe a practical illustration of the relation of bacteria to disease. In certain animals in order to render them more acceptable to the table the testicles are destroyed by twisting the spermatic cords without making any external wound,—an operation termed *bistournage*. After this the testicles shrivel up. Of the numerous operations so performed, none are ever followed by infective consequences. But if previously to the operation a dose of septic material had been introduced into the blood-stream, acute diffuse inflammation of the parts around the organs follows. A poison present in the blood-stream determines in the injured part an infective inflammation. "The immediate cause of the septic inflammation of the testicle was evidently the injury to which it had been subjected; but no infective process would have developed itself—nay, more, no inflammation whatever would have occurred—had it not been that masses of septic matter were at the time of the injury circulating in the blood-stream, some of which were conveyed to the injured part and then became centres of infective action. But if the septic liquid were carefully filtered before injection, so as to deprive it of its visible particles, bistournage could be performed without unfavorable result. The filtrate, though obviously still contaminating, was quite innocuous. It appeared to be essential to the morbid fruitfulness of the seed sown, that it should be enclosed in particles of sufficient size to lodge in the capillaries of the injured part."

In his next lecture Prof. Sanderson reviewed the germ theory, *contagium vivum*, and specific infections. He said of the germ theory, it "teaches that certain organized and living particles of extreme, if not ultra-microscopical, minuteness, which are always suspended in the atmosphere, are in such sense the causes of the suppuration and other destructive changes which interfere with the healing of a wound; that (1) if these organisms are excluded, the wound must enter at once on the processes of reparation; and (2) that if these organisms are present, it cannot so heal; and consequently that the whole secret of the successful treatment of wounds consists in the exclusion of that finest form of atmospheric dust, which, whatever be the size of its particles, has been identified by physicians as by mycologists with the contaminating agents in question." The lecturer then went on to speak of the value of the method of treatment of wounds which is, or professes to be, founded on the germ theory. He said, "if it had been possible to contrive and carry out a series of experiments for the mere purpose of testing it, we could have no better proofs than have actually been afforded by

hospital practice." Having recently been in Germany, he saw the *Lister'sche Behandlung* as carried out by Prof. Volkmann of Halle. This is what he says: "It is impossible to conceive a more favorable locality for making an experiment of such a nature; first, because the extraordinarily rapid progress of the manufactures of the town has rendered the hospital too small for its requirements, and consequently the proportion of severe cases (as I was able to observe in going round the wards) was very large; and secondly, because the hospital itself is not perhaps the worst but one of the worst that I have ever seen. Situated in the very centre of the town, overshadowed by a huge ecclesiastical building, and having for wards low rooms, each of which communicates with a latrine and has its beds so close that there is scarcely more than room to pass between them, the hospital presents every circumstance likely to lead to the development of the worst traumatic affections. It is in such wards as these that compound fractures, amputations, and resections have been treated with a success which is up to the best results of London practice. Looked at from a pathological—that is, from a scientific—point of view, the successful trials which have been made of Lister's treatment during the last few years in the great hospitals of Europe may be regarded as separate experiments on a very large scale, the whole forming a series of experiments all of which point very distinctly to the same conclusion, that conclusion being, of course, that a serous surface may be exposed, and that living tissues may be incised, or even subjected to serious mechanical injury, without these parts becoming foci of infective inflammation,—without any further reaction taking place than is necessary for the constitution of the reparative process." After pointing out the revolution, as regards results, wrought at Halle, Munich, Strasburg, and elsewhere, by the adoption of the Lister method, Prof. Sanderson says, "In judging of the value of a therapeutic method the one and only criterion is success. The question of primary importance is not whether bacterial germs are killed or sterilized, but whether the pathological results of septic infection are prevented, so that the wound is free from inflammation, the constitution free from fever."

It appears that there have been instances where the antiseptic treatment caused the patient to be free from fever, pain, and inflammation, "but yet organisms exist in the discharges. It would appear that although the method was carried out sufficiently perfectly to accomplish its end (the absence of fever, pain, and inflammation), nevertheless organisms had found their way in to the discharges, but that here, as elsewhere, being placed under conditions hostile to their development, they had been harmless." Prof. Sanderson said in conclusion, "The first

principle that suggests itself on pathological grounds relates to the avoidance of conditions in the wound itself which favor the development of infectivity. Considering that the development of infective action in a wound (supposing it to depend on the evolution of successive generations of organisms) must be a question of time, and that the circulating blood and living tissue are the most powerful colytics that we know in restraining and preventing that development, all methods which tend to prevent the accumulation of blood or liquids in wounds must be of great importance, not because these materials are in themselves incapable of being absorbed or organized, but because, if accumulated in quantities, they are withdrawn from the colytic influence of living tissues. The second principle I take to be the avoidance of infective contamination, in connection with which the question at once arises of the source of such contamination. If it be not atmospheric particles, what is it? Bear in mind that wherever bacteria have been vegetating for some time in moisture containing the material for their growth (and we have seen how simple their requirements are), there infective virus is being elaborated; consequently, that ordinary filth (of which the only scientific definition is that it consists of the products of bacterial evolution) is more or less virulent or infective, according to its development. Hence if against all filth there lie a *prima facie* presumption that it is infective and a source of danger, scrupulous cleanliness must be essential. I need not add that in antiseptic surgery and in the practice of those surgeons who have accomplished the greatest successes in the combat with traumatic infection, this principle is so well recognized that, in future, we may hope to speak of 'surgically pure' instruments as familiarly and with as much significance as we now speak of 'chemically pure' substances." These lectures have been well attended by the profession, and mark our advance in a very interesting department of science closely linked with medicine.

In the early part of these lectures it was stated that when a certain dose of septic poison was injected into an animal, muscular rigors followed, and with them a discharge of feces first, and then blood and mucus, from the bowels. This observation is of value as showing that when poisonous effluvia from decaying matter, and especially decomposing muscle, or other nitrogenous tissue, are taken into the system, smart diarrhoea, soon assuming a dysenteric character, is a consequence and probably an eliminative process. In the old days, before the passing of the present Anatomy Act, bodies for the purposes of dissection had to be procured as they could. Scarcity led to high prices, and high prices led some adventurous fellows to follow the disgusting occupation of body-snatching. Experi-

ence made them proficient at their business, and a midnight excursion to a solitary churchyard brought back the desired corpse. These men found that if in doubling up the body to force it into a sack for the purpose of removal they inhaled the gas given off by the stomach of the corpse, they were sure to suffer from malaise with severe headache. Stimulants gave no relief, and a dose of purgative medicine was the only thing that did them good. There are a good many facts which point to the eliminating action of the bowel when the products of animal decomposition are inhaled. The peculiar smell of the dissecting-room is commonly found in the faces and flatus of those engaged in such rooms; and the same thing occurs afterwards when a post-mortem examination has been made. In diarrhoea arising under such circumstances, it may be questioned how far it is desirable to attempt to arrest the discharge, at least early on. There are good grounds for supposing that such arrest if it could be achieved would be very undesirable,—that in fact it would be checking an excretion as truly conservative as uræmic diarrhoea when the action of the kidneys is almost entirely suspended. Many apparently morbid processes are not to be interfered with rashly, and often much harm is done by hasty assumption that a discharge is a malady, when really it is a very useful compensatory action and as such not to be interfered with. The common tendency to attempt to check diarrhoea as soon as it occurs is, fortunately for the individual, often fraught with failure. When successful it is not rarely the means of insuring more serious mischief. When called in to a case of diarrhoea, the first thing the practitioner should do is to satisfy himself as to the nature of the discharge. If on careful inquiry he finds that the diarrhoea has been copious and free, and that the offending matter has been effectually removed by it, then it may be well to give a little laudanum and sulphuric acid, or, if the fecal motions are acrid, instead of the acid a little chalk. But where the motions are small and where relief is not obtained by them, then the aspect of the case is totally different. Here there is an ineffectual attempt to dislodge or remove some irritant matter. The discharge from the bowel is commonly set up below the seat of the irritation, and thus is inoperative for its removal. If the secretion from the bowel be started at a point above the source of irritation, the discharge will ordinarily be sufficient to dislodge it, and the diarrhoea is a useful and salutary process. But it may be insufficient to attain this end, or it may be set up below the source of irritation, in which case the readiest way to relieve the diarrhoea is to administer a purgative, which will act upon the whole of the bowel, including that above the source of irritation,—either castor oil or rhubarb. The last-named agent is very useful in such cases, as its primary action is to

cause free secretion from the bowels, while its remote or secondary action is to lock up the bowels. Twenty grains of rhubarb will often prove a most efficient means of doing away with an inoperative diarrhœa.

Speaking of rhubarb, there is one point connected with its administration which is worth while remembering, and that is its tendency to color the urine. A few weeks ago a surgical colleague came into my room at the hospital with a vial full of urine. It was dark red, and presented exactly the appearance of urine containing a considerable proportion of blood. In fact, there existed no doubt, in either his mind or mine, that it was a specimen of bloody urine. On proceeding to boil it, instead of losing its color it remained unchanged. The addition of nitric acid to another portion produced no change of color. On dropping a few drops of liquor potassæ into another portion it became of deeper hue; each drop of the liquor potassæ producing an immediate change of hue, just like dropping pure blood into a bloody fluid. The specimen was put by for further examination, but it unfortunately came to grief, so any further examination was impossible; and as the patient has not turned up again, no more specimens of this remarkable urine, so exactly like a blood-laden urine, have been forthcoming; neither, of course, has it been possible to get at any history of what the man had done to his water, or what he might have taken. On mentioning the matter to Dr. Lauder Brunton, he said he once met a specimen of urine with the same characters and reactions, and in that case the patient had been taking rhubarb.

Diarrhœa is so very commonly regarded as a malady to be checked, that the following case may be found instructive. I had it from a surgeon of eminence for diseases of the rectum. He was consulted by a lady who was much troubled with her bowels. When dressing, she would have to comply with the demand upon the rectum, after breakfast she would have to retire, and so on five or six times every day. She had been treated most elaborately for diarrhœa, and the surgeon informed me he had retained a prescription given to the lady by one of the most eminent physicians in London, under whose care she had been for some time. Previous to that she had been actively treated by her doctor in the country, who in despair had sent her up to town. As she got no better for the orthodox chalk, catechu, and opium mixture of the physician, she was prevailed upon to consult this rectal surgeon. He found that she had great tenesmus, and that after her repeated visits to the closet during the whole day she only passed about an egg-cupful of thin fluid fæces, without mucus or blood. On making an examination by the rectum, a solid fecal mass was found, upon which the finger could make no impression, so dense was its consistence. This at once explained the persist-

ing desire to go to stool, and also the other fact of the liquid fæces, for nothing but a fluid could pass the obstruction at the outlet of the gut. The lady was put under chloroform, the anus was dilated, and she was delivered,—for delivery it amounted to,—by means of a pair of short midwifery forceps, of a mass of solid fæces in shape and form like a five-inch Bologna sausage. It was of clay-like consistence, and consisted of the bran of wheat meal matted together with vegetable fibres and containing a quantity of mucous corpuscles infiltrated with lime-salts. The patient at once lost her distressing tenesmus and had no further necessity for the diarrhœa mixture. She had for long eaten bread of whole wheat meal for the purpose of keeping her bowels open, and from this were derived the bran-scales of the fecal mass. The case is a very instructive one, illustrating as it does how even a physician of eminence may misinterpret a series of phenomena when under the influence of a strong preconception as to the nature of a malady.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 27, 1877.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Case of circumscribed epithelioma of the larynx.
Presented by Dr. J. SOLIS COHEN.

THE specimen is from the body of an unmarried English lady, aged about 50 years, of a long-lived family (both parents still living, over eighty years of age, and engaged in active and laborious business), who began to be troubled with a cough and occasional difficulty in deglutition about fifteen months before death (December 8, 1877). The lady was treated for a while for bronchitis, and on placing herself under the care of her family physician, Dr. Macpherson, about December, 1876, that gentleman on a laryngoscopic examination detected an enlargement of the epiglottis, apparently œdematous. Little change took place in the condition of the patient until February of the present year, when she was garroted by a burglar whom she discovered in her bed-chamber, after which her symptoms rapidly increased in severity, the cough becoming more and more troublesome, and deglutition getting so difficult that a proper amount of nourishment could not be swallowed. By May 3, at which date I first saw her in consultation with Dr. Macpherson, the impediment to swallowing was so great that we determined to commence at once with the

systematic exhibition of nutritive enemata, and from that time forward, nutrition was carried on in that manner almost exclusively, there being but rare intervals at which swallowing was at all practicable, and the amount ingested being too insignificant to supplement the enemata in the least. Laryngoscopic inspection at the date just mentioned revealed a fungous-looking mass involving the entire free portion of the epiglottis and the left aryteno-epiglottic fold. There was considerable enlargement on the left side of the neck, greatest and hardest in the region of the carotid glands. The diagnosis was epithelioma, and this was confirmed by microscopic examination of several fragments which were removed for the purpose, some of which were mounted by Dr. Seiler. I removed the entire free portion of the epiglottis, but made no attempt to remove the mass from the aryteno-epiglottic fold, as it was impracticable to determine how far the disease extended, although the character of voice was such as to indicate integrity of the vocal cords. After removal of the epiglottis the patient was able to swallow occasionally for some weeks. She was placed upon arsenic, quinine and brandy being administered per rectum in the nutritive enemata.

The remaining growth was treated by astringents, applied locally by Dr. Macpherson, to restrain hemorrhage and constrict the vessels. The difficulty of swallowing soon increased to absolute aphagia: the patient became gradually weaker, and from time to time expectorated detritus from the mass. Towards the close of July, dyspnoea became superadded to the symptoms, and this increased to such an extent that I was suddenly summoned, late in the evening of August 9, to perform tracheotomy, which I did without anæsthesia, with the assistance of Dr. Macpherson and my neighbors Drs. Mears and Turnbull, Jr., who kindly accompanied me to the residence of the patient for the purpose. The immediate effect of the operation was, the dyspnoea ceased, and, as I am informed by Dr. Macpherson, ceased for good. The patient made a rapid recovery from the operation, the wound healing with unusual promptitude, despite some local gangrene of the fistulous tract, which for a few days blackened the surface of the silver tube introduced. Swallowing, however, was not improved, and everything attempted to be taken into the stomach passed through the tube, owing to a cause which will be apparent on examining the specimen. The improvement immediately succeeding the operation was soon followed, as I am informed, by gradual progressive emaciation, with frequent discharge of fetid débris from the larynx, both by mouth and by tube; and the patient died exhausted on the evening of December 8, 1877.

At mid-day on December 10, Dr. Morris Longstreth made a post-mortem examination

in the presence of Dr. Mears, Dr. Macpherson, and myself, and removed the parts exhibited to the Society, comprising the larynx, a portion of the trachea including the wound of tracheotomy with its overlying integument, the posterior portion of the tongue, portions of the palatine arches, pharynx, and œsophagus respectively, and two enlarged and degenerated glands from the left carotid region. The connective tissues were quite dense. The destruction is most marked on the left side of the larynx. The whole of the aryteno-epiglottic fold and its constituents down to the lower border forming the ventricular band (false vocal cord) of that side is destroyed, exposing the sac of Hilton from above, and leaving the ventricle and ventricular band intact. It is through this route that food gained access to the larynx on swallowing. The cartilages and vocal cords upon both sides are intact. The stump of epiglottis (chiefly the petiolus), which is the only portion of that structure remaining, appears not to have been involved in the morbid growth, but there are tracks of ulceration extending completely around it. The remaining portion of the larynx, the tongue, palatine arches, pharynx, and œsophagus, appear to be free from disease.

There were two lymphatic glands lying in the line of the carotid artery of the left side, at the level of the larynx, which were enlarged. On section they showed cheesy degeneration in nearly their whole extent. The microscopic examination made by Dr. Longstreth showed abundance of oil drops, lymphatic cells, highly granulated and fatty, and also some crystals of cholesterine. There were also seen numerous large flat cells, containing a single large granular nucleus. These resembled pavement epithelium, but were, however, of greater thickness. The tissue surrounding the glands was very firm, dense, and white in color. Under the microscope it showed fibrous tissue with numerous small nuclei.

There was no microscopic evidence of an extension of the malignant disease to the glands or to the surrounding tissue.

The limitation of the disease to the larynx stamps it as primary without doubt; the removal by ulceration of all the abnormal growth stamps it as circumscribed.

Report of the Committee on Morbid Growths.—"The larynx presented by Dr. Cohen, and referred to the Committee on Morbid Growths, shows from a microscopic examination of a thin section, taken from the remaining portion of the epiglottis, pegs formed of epithelial cells penetrating into the submucous tissue; here and there some of the cells forming the pegs are arranged concentrically, constituting the so-called pearly bodies. We therefore find an infiltration of the submucous tissue by an epitheliomatous growth.

"January 10, 1878."

Case of stenosis of the aortic valves, with extensive calcareous degeneration reaching nearly to the mitral valve. By Dr. J. SOLIS COHEN.

The case from which the specimen was obtained was under my care at the German Hospital from October 27, 1877, to December 7, 1877. The patient was a medium-sized man, 50 years of age, of light complexion, and by occupation a regulator of gas-meters. He believed himself to have been healthy until about six months before admission, at which time he was taken ill with malarial fever, followed by icterus, ascites, and great general debility.

His physical condition on admission was deplorable; icterus was very marked, ascites was considerable, with serious dyspnoea, anorexia was complete, and there were intense presystolic and post-systolic cardiac murmurs audible before the ear reached the chest. The diagnosis was probable cirrhosis of the liver, with stenosis of the aortic valves.

Under the external use of nitromuriatic acid, and the internal administration of nitromuriatic acid, digitalis, and jaborandi, the ascites subsided rapidly, the icterus diminished, and the appetite and digestion became good, and under a subsequent invigorating treatment with nuxvomica and cinchona, improvement in the general health was very prompt, and the patient was discharged, with injunctions to resume work cautiously, and never to undertake more than half a day's work in the twenty-four hours, complete retirement from labor being out of his power.

Considering himself well, he resumed work at full hours, and one week later word was brought to the hospital that he had been found dead in bed that morning. A post-mortem examination of the body was made by the residents of the hospital, Drs. Berlet and Mellersh, who brought me the heart now exhibited, and reported that the body generally was in good condition, with plenty of adipose tissue, the liver was cirrhotic, the heart was stenosed at the aortic orifice with calcareous deposit, which extended beyond its limits; and the remaining organs appeared normal. I am indebted to Dr. Morris Longstreth for the following description of the specimen:

The heart is moderately enlarged, the enlargement being confined to the left side, the right ventricle appearing as a patch on the side of the organ.

The *right* auricle and ventricle, with the openings and valves on that side, were normal.

The *left* auricle was somewhat enlarged, its wall about normal, certainly not thickened; the endocardium appeared thickened somewhat.

The *mitral orifice* was found dilated considerably. The valvular leaflets are nearly normal, and likewise the tendons.

The *cavity of the left ventricle* is dilated,

and the ventricular walls about normal or perhaps slightly thicker.

The chief disease is at the *aortic orifice*; this is narrowed to a slit-like orifice, allowing merely of a nickel piece being passed edgewise through it. The two anterior cusps were firmly united as far as their middle part along their line of mutual contact. The posterior cusp was still slightly flexible at its posterior part. There is a large calcareous deposit, extending not only throughout nearly the whole extent of the semilunar valves, but reaching down to the origin of the mitral leaflet.

The aortic sinuses are reduced in size; the aortic wall at this portion is nearly normal, except at a few points near the opening of the coronary arteries, where are seen small atheromatous changes. These arteries have their walls normal, and surrounded by a thick bed of fat.

The ascending part of the aorta is enlarged slightly, though the wall of the vessels is smooth and of normal texture. Atheromatous changes are visible where the great vessels leave the arch of the aorta.

Microscopic examination of tissue of left ventricle showed heart-fibre highly granular and fatty; the striation had largely disappeared.

Dr. LONGSTRETH said that the specimen was a good illustration of one form of aortic valvular disease with the consecutive changes resulting in the walls and cavity of the left ventricle.

The calcareous degeneration, with thickening and stiffening of the flaps, has narrowed the aortic orifice to such an extent that it is a wonder any amount of hypertrophy of the muscular wall was able to propel the blood into the aortic system. From the advanced stage of the disease of this valve, the deviations from the normal in the left ventricular wall differ from those we find in simple moderate aortic stenosis, and approach those resulting from insufficiency of this orifice. In pure aortic stenosis, due, for example, to calcareous deposit limited to the peripheral part of the cusps, whilst their free borders remain flexible, hypertrophy of the wall of the left ventricle takes place, and this change is usually almost the only alteration in the form of the heart.

If, however, as in this specimen, stenosis becomes extreme, the final state is that the same disturbing force acts, or rather the same state of blood-distribution is conditioned, as in insufficiency of the valves, viz., the quantity of blood to be expelled by the contraction of the left ventricle is greater than normal. The mechanism of the condition in the two cases is very different. In insufficiency, the increased amount comes from a reflux of blood once expelled into the aorta; in stenosis, it is from blood unable to pass the narrowed opening. This condition is the ter-

minimal one resulting from the two forms of change at this valve. Let us see by what steps the condition is reached. In specimens where regurgitation is at death a well-marked phenomenon, the initial step in the morbid change is invariably an obstruction, however slight, to the exit of blood. The only exception to this rule is formed by examples of sudden rupture of a semilunar flap. The endocarditic process, with the subsequent vegetations on the leaflets, forms a sufficient resistance or stimulant to lead to over-action of the heart-muscle,—the first step, therefore, in hypertrophy; later, if these obstructions grow greater, the hypertrophy increases; later still, the retraction of the flaps allows regurgitation, itself to be viewed as an obstruction to the onward flow of the blood. But regurgitation is now occurring into a hollow muscle, no longer of its ordinary normal thickness, but hypertrophied and accustomed by previous over-action to propel the blood with more than normal force. The small amount of regurgitated blood, at the beginning, serves, by the slight over-distention of the ventricle, to stimulate the strengthened muscle to still more forcible expulsive effort. The result is, therefore, hypertrophy of the wall, with temporary greater than normal expansion, at the height of diastole, of the cavity, but not permanent dilatation.

Dilatation, which invariably comes with insufficiency at this orifice, has its cause in the degeneration of the heart-fibre, dependent on two factors: 1, the over-action and the too frequent action lead to greater waste of nutrition than time allows for repair,—both alone insufficient to produce dilatation; 2, the lessened flow of blood in, and the increased heart-tissue to be nourished by, the coronary arteries, furnish the further needed cause in the process of decay. Degeneration of the heart-muscle means death; and, so soon as the amount of blood within the cavity rises in quantity above that which the muscular force is able to expel, the circulation must cease.

In stenosis, as in regurgitation, while the final condition, viz., degeneration and dilatation, is the same and has been arrived at by a like gradual process, the cause of accumulation of blood in the left ventricle is totally different.

The steps of the process are likewise very different; throughout the disease, when stenosis alone has been present, the continual tendency is to hypertrophy, dilatation occurring only in the last stages and after stenosis has become extreme. The gradual formation of the obstruction is as gradually equalled by compensatory hypertrophy: so long as the balance between opposition and muscular power is maintained, the cavity is emptied at each systole and no force is at work to produce dilatation. When the balance topples by the obstruction growing greater, degeneration allows of dilatation of the over-

worked and insufficiently nourished muscle. It is probable that this result comes sooner in insufficiency than in pure stenosis, for more reasons than one: in the first place, the ventricular cavity fills more quickly and stimulates the muscular fibre to a quicker-coming systole, so that in regurgitation the pulsations are more rapid than in pure aortic stenosis; the pause between the contractions—the time of repair—is lessened; secondly, the coronary circulation is less well maintained under conditions of regurgitation, and is less perfect, in a rapidly contracting heart.

So long as the hypertrophied muscle continues equal to the demand made of it, the circulation is maintained at the normal in pure stenosis, and the patient presents no symptoms of the grave lesion, the physical signs alone making us acquainted with the condition; overwork, physical or mental, or other disturbing causes, however, are very apt to occasion temporary cardiac symptoms, which disappear with rest and quiet.

Death occurs in the marked cases of pure stenosis, as he believed was the case with this specimen, before the extremes of degeneration and dilatation result which we see in the organ from other forms of disease. The obstruction becomes so complete in a valve whose cusps remain rigid and expanded alike in diastole and systole, that the muscle, unable to move the blood through the slit-like opening, is paralyzed, and the paralysis comes suddenly; the heart stands still, and death is by syncope.

The clinical history of the case agrees with the common experience that *aortic* valvular disease brings far greater danger of *sudden death* than morbid conditions at any other valve. This observation depends on the difference in construction of the flaps of the aortic orifice, as compared with the mitral leaflets, and on its position relative to the general circulation, as compared with all the other orifices. The ready retroversion of an aortic cusp or its rupture or laceration when diseased, followed by sudden emptying of the aorta and lowered blood-pressure in the aortic system and over-distention of the left ventricle, explains how slight is the bulwark holding back sudden death from syncope. It is not strictly accurate to trace death, when it comes through such an accident at the aortic orifice, to syncope alone. True, the rupture of a flap empties, or so lowers the blood-pressure in the aortic system that cerebral anæmia and syncope occur. The symptoms in such cases prove it to us: the patient staggers and falls, like one shot. But one does not die from a single failure of systole, nor does death come instantly even from rupture of the aorta within the pericardium; both conditions tend equally either to lower blood-pressure or to empty the aortic system. In these two instances, the aortic valves being perfect, the succeeding systole restores blood-pressure,

in the first case completely, in the second instance at least partially, so that fatal syncope is averted, and death comes slowly from hemorrhage. The true explanation lies in the condition of the left cavity itself. The sudden reflux of blood from the aorta, while the mitral orifice is delivering its normal quota, so stretches the ventricle that its unhypertrophied muscle stands still or ineffectually struggles with the newly-imposed burden; no blood, or very little, is expelled into the aortic system; after a few flutters the heart ceases action.

The specimen which Dr. Cohen has shown this evening is a marked contrast to one which he obtained at a recent autopsy at the Pennsylvania Hospital. The general alterations in the form of the heart, as well as the symptoms, were different; but especially did he wish to allude to the difference in the mode of death, although in the two specimens the disease at the aortic orifice was the same, viz., nearly complete obstruction without insufficiency. In the specimen to which he referred there was in addition mitral narrowing and rigidity (stenosis and insufficiency). From the coexistence of the valvular disease at two orifices, or rather from the presence of mitral disease, a difference in the form of the heart, in the two cases, was a necessity; the symptoms and the physical signs were marked by a preponderance so complete of those dependent on the mitral lesion that any one, seeing the case for the first time in its terminal stage, would have failed to detect the very marked aortic disease. There is also nothing unusual in this observation, which accords with the not infrequent experience in valvular lesions at these two orifices. But the chief contrast between the two consists in the respective modes of death: in one case, after a comparatively symptomless course, with only disturbances of the circulation resulting from overwork, a patient, who felt so well that in spite of warnings he continued his usual occupation, dies without any of the common premonitory symptoms of heart-disease; in the other case, the aortic disease commenced prior to that of the mitral, and so far as is known of the patient's history he was free from symptoms of disease, except temporarily after severe exertion, for a considerable period. Later, during the time he was under observation, the mitral lesion caused the most marked difficulties. The narrowed auriculo-ventricular orifice, with, at the same time, insufficiency of the valve, caused dilatation and hypertrophy of the left auricle, pulmonary congestion, and finally also general venous congestion. The backing up of blood into the right heart led to hypertrophy and finally dilatation of each of its cavities, with dilatation of the tricuspid orifice. Death resulted from asphyxia, with its prolonged agony. It was a death from the right heart, not from the left, as in Dr. Cohen's specimen.

GLEANINGS FROM EXCHANGES.

THE PANCREAS AS A DIETETIC REMEDY (*The Clinic*, January 26, 1878).—Dr. H. Engesser has succeeded in obtaining an active infusion of the pancreas which he has tested in its action in impaired digestion, and he comes to the following conclusions regarding the indications that are favorable to its use:

1. In all cases of dyspepsia produced by abnormal acid-production.
2. In flatulent dyspepsia and frequent gaseous eructations smelling like sulphuretted hydrogen, the cause existing in an anomaly of the juices secreted in the upper part of the small intestine. The author claims that to this form of dyspepsia are due many diseases of the general system, such as rachitis, arthritis, scrofulosis, and diabetes mellitus.
3. A form of dyspepsia followed by anæmia, emaciation, and decline, which is probably caused by faulty composition of the digestive juices, as a result of which food is not digested and assimilated in a proper manner.
4. Those forms of dyspepsia that are secondary to constitutional disturbances, to anæmia, chlorosis, leukæmia, pernicious anæmia, scrofulosis, and tuberculosis. These expectations are, to say the least, sanguine, and, if practice carries them out, dyspeptics can rejoice and eat their warm bread, or what not, in peace, following it up by a bit of pancreas.

CONCUSSION OF THE BRAIN (*The Clinic*, January 26 and February 2, 1878).—M. Duret has recently read before the Biological Society of Paris a communication which appears translated and abridged in *The Clinic*. He has experimented upon animals, producing the symptoms of concussion or compression, by drilling the skull and forcibly injecting against the brain a small quantity of liquid, which he immediately allowed to escape. In this way he thinks he has demonstrated that the symptoms of concussion do not depend on what he calls the "incomprehensible myth of oscillation of the nervous mass," but upon the existence of a series of lesions produced by the action of the cephalo-spinal fluid. This is displaced by the shock, and is driven through the different parts of the brain, principally about the floor of the fourth ventricle. The unconsciousness which is so often found he explains by the cutting off of the external impressions which are received through the medulla, and which are necessary for the origination of thought. This theory he believes would explain the absence of marked lesions in cases of death from concussion, and also the fact that the most serious disturbance of the hemispheres alone is insufficient to produce many of the symptoms noticed in concussion. At the December meeting of the Bradford Medico-Chirurgical Society, Mr. Miall read a paper

(*The Lancet*, January 12, 1878) on injuries of the head, containing a full account of fifteen cases. The theory of concussion and the nature of compression were discussed, and the symptoms of fracture of the base of the skull detailed, with instances of recovery. The following conclusions were drawn: (1) that the existence of concussion pure and simple is not proved; (2) that compression is scarcely met with by itself, being usually in combination with other conditions; (3) that unconsciousness more or less complete, with irritability and restlessness, results from laceration, contusion, or congestion of the base of the brain; (4) that injury of this part, insufficient to cause symptoms at first, will produce symptoms after inflammatory changes have taken place; (5) that inflammation, especially of the membranes, produces delirium; (6) that paralysis to any marked extent is rare in head-injuries, though slight and more circumscribed paralysis is common. In treatment the value of rest was insisted on.

DEPRESSED FRACTURE OF FRONTAL BONE (*The Lancet*, January 5, 1878).—Prof. Spence reports the case of a boy who, while at play, had fallen over the balustrade of a common staircase, and alighted upon his head on the pavement below.

A large irregular wound, with ragged edges, and the size of a five-shilling piece, was discovered half an inch above the right superciliary ridge. A portion of the frontal bone, nearly as large as the wound of the soft parts, was driven inwards upon the dura mater.

The child breathed quietly, and was unconscious, but could be roused. Chloroform having been administered, Prof. Spence enlarged the wound of the skin somewhat in an upward direction, carefully separated the periosteum from the depressed osseous portion, and then inserted an elevator between the dura mater and the bone, and raised those parts of the inner and outer tables of the skull which had been forced inwards, and took them away in three pieces. The pulsations of the brain became distinctly visible. The periosteum was folded over the dura mater, and the edges of the wound, as far as possible, were brought together with silver sutures.

It seemed probable that there was a fissure extending towards the base of the skull, involving the orbital plate of the affected side.

The child remained unconscious all the night following the operation, but next morning he could be easily roused. The head was shaved, and ice continuously applied to it.

There was considerable œdema of the upper eyelid of the right side, and the superficial and deep vessels of the eyeball were much injected.

A fortnight later a large abscess formed in the cornea of this eye, followed by sloughing of the cornea and also of a portion of the sclerotic. Eventually, however, a good stump of an eye remained.

The head-injury progressed to recovery without a bad symptom. The portion of the dura mater that had been exposed gradually became covered with granulations, cicatrized, and contracted considerably.

THE AMOUNT OF SALIVA SECRETED DURING MASTICATION (*The Lancet*, January 5, 1878).—M. Tuczek, in the last part of the *Zeitschrift f. Biologie*, relates his experiments on the amount of saliva secreted during the mastication of different kinds of food. The plan adopted was to take an ordinary mouthful of the substance, the quantity of water in which was known beforehand. It was masticated till judged fit to be swallowed, then ejected, weighed, and dried. From the dry residue the quantity introduced into the mouth was calculated, and on subtracting this from the total weight of the ejected morsel, the amount of saliva added to it was obtained. The quantity of saliva secreted he finds is, as might be expected, greatest in dry food, as the crust of bread, where it amounts to somewhat more than the weight of the substance itself. He proceeds on the data so obtained to estimate the absolute amount of saliva secreted per diem, and gives the following table: Adult fed on black bread exclusively, 545 grammes; white bread, 698; non-nitrogenous food (starch, fat, sugar), 500; food with a larger proportion of bread and potatoes, 659; mixed food, 476; albuminous food, 773 grammes. On comparing these numbers with the total weight of the salivary glands (about 66 grammes), it appears that 100 grammes of salivary gland secrete in an hour about 1300 grammes of saliva, which, in comparison with other glands of the body, shows that the salivary glands possess great activity.

THE DIAGNOSIS OF THE NATURE OF PLEURITIC EFFUSION (*The British Medical Journal*, December 15, 1877).—Dr. Aitken calls attention to some observations of Professor Baccelli upon the detection of the character of endo-pleural fluids by physical signs. The latter formulates the results of his observations thus:

1. The whispered voice-sound is transmitted most clearly through a serous effusion.

2. Through sero-fibrinous effusions the same sound is transmitted more or less clearly according to the point at which we listen: clearly at the upper part, where the fluid is lightest; less clearly lower down, where the fluid is denser; and probably lost altogether at the base.

3. In empyema, the transmission of the whispered voice-sound is reduced to a minimum or altogether lost.

SMOKERS' GASTRALGIA (*The British Medical Journal*, January 5, 1878).—M. Révillout reports in the *Gazette des Hôpitaux* two cases of gastralgia attributed to the use of tobacco. The first case occurred in a man, aged 52, in M. Vulpian's wards. He had always been moderate in everything except the use of

tobacco, had never undergone any privation, has always been able to choose his food, and had been careful in his diet. On six different occasions he had been seized with extremely acute attacks of pain in the stomach, not extending to the back, and coming on more or less quickly after every meal, bringing on also vomiting of the food. In the intervals of these attacks, of which the average duration was about six weeks, his health seemed tolerably good, with the exception of some vertigo, dazzling of the sight, and weakness of the legs. These troubles were more marked when the patient felt better and smoked than when, suffering with gastric troubles, he had no appetite for anything and temporarily left off tobacco. M. Révillout also reports a case in which a gentleman in good circumstances, following an excellent hygienic system, found his digestive functions gradually failing, whilst his strength diminished. Later on, he was attacked with vertigo, staggering whilst walking, and spasms and prickings in the limbs. After every meal, severe pain was felt in the epigastric region; the face was pale, the speech gasping, the heart-beats uncertain, and the body generally discolored. This patient smoked from twelve to fifteen cigars daily. Under advice, he reduced this number to two, and immediately a considerable improvement took place. He again took to excessive smoking; but, as the original symptoms returned, he was again obliged to abstain from tobacco. Under medical advice, he washed the tobacco of which he made his cigarettes in a coffee-percolator, by first throwing on it ammoniacal water, then repeated baths of hot water. The nicotine was thus partly dissolved out of, or mechanically removed by, the warm water. The tobacco, when washed, was spread out in the sun to dry on paper, and thus modified satisfied the patient, who from that time was not troubled with dyspepsia or vertigo.

MALARIAL HÆMATURIA (*The New Orleans Medical and Surgical Journal*, February, 1878).—Dr. Joseph Jones reports several cases of malarial hæmaturia, a disease which he believes to be entirely distinct from yellow fever, although possessing some symptoms in common with it. He has observed after death the following pathological changes: enlarged slate- and bronze-colored liver with pigment granules; enlarged spleen, softened or indurated; gall-bladder distended with thick ropy bile, highly concentrated and never containing blood. The vomited matters of malarial hæmaturia invariably contain bile, those of yellow fever never do. The kidneys after death from malarial hæmaturia present a deep-red purple congested hue, and their sections examined under the microscope exhibit the tubuli uriniferi filled with coagulated blood. It is evident, therefore, that the issue in any case of malarial hæmaturia will largely depend upon the number of urinary tubes thus

blocked up with coagulated blood. Dr. Jones has been led by experience to rely chiefly in treatment upon:

1. Prompt purgation, with such agents as calomel, extract of rhubarb, and aloes.

2. Counter-irritation over the region of the kidneys.

3. Cut-cups,—the local abstraction of blood over the region of the kidneys by cut-cups.

4. Quinine in full and sufficient doses to prevent the recurrence of the paroxysms. If rejected by the mouth, the quinine must be administered by the rectum; and if both avenues are closed, in virtue of incessant purgation and vomiting, then it may be introduced by subcutaneous injection, or through blistered surfaces.

5. Nutritious diet in small quantities and at regular intervals, when retained by the stomach.

6. The persistent use of calomel, rhubarb, aloes, and colocynth, in small doses, combined with quinine, at regular intervals three or four times a day, during the continuance of the jaundice, if the bowels are torpid.

7. After the establishment of convalescence, the continuous use of such tonics as the nitromuriatic acid, and tincture sesquichloride of iron, in combination with quinine; nutritious diet, generous wine; and change of climate to an elevated non-malarious region, if within the power of the patient.

MEDICAL EVIDENCE FROM THE STATE OF THE OVUM OR FŒTUS IN CASES OF CRIMINAL ABORTION (*The Boston Medical and Surgical Journal*, January 31, 1878).—Dr. F.W. Draper, in his report on the progress of forensic medicine, gives as follows the conclusions of a committee of the Société de Médecine Légale:

- "1. Abortion in the *first* month of pregnancy is always attended with the expulsion of the complete ovum (*en bloc*), and it passes from the woman unperceived by her.

- "2. The aborted ovum may, however, in some cases undergo spontaneous rupture during its passage through the neck of the womb.

- "3. From the *second* to the *third* month also the ovum may be expelled in a complete condition; but this is not usual, except when the fœtus is dead. When the fœtus is living, it is more common to find that it has undergone rupture. This depends on various conditions, such as the degree of resistance offered by the ovum, the force of the uterine contractions, and the state of the cervix uteri.

- "4. The absence of the fœtus does not prove that there has been criminal interference, for if the dead ovum have remained long in the uterus the fœtus or embryo may have disappeared by solution.

- "5. Dating from the *third* month it is usual to find the ovum broken up, abortion taking place at two periods, with the discharge of the fœtus followed by that of the placenta.

- "6. At the *fourth* month, and subsequently, abortion may be regarded as a delivery on a

small scale. At this period it is exceptional that the ovum is found expelled entire.

"7. Up to the third month the cord is too weak to resist the force required to extract the placenta; and, *a fortiori*, it would not be strong enough to allow an inversion of the parts, as was assumed in the case reported to the Society.

"8. Rupture of the membranes, taken alone, cannot, therefore, be regarded as a sign of intentional abortion, and even if accompanied by an inversion of the membranes it cannot be admitted as sufficient evidence of a criminal act, even in the early stage of pregnancy."

THE THERAPEUTIC USE OF IODOFORM (*The British Medical Journal*, January 26, 1878).—Mr. Berkeley Hill reports the most successful results from the local use and internal employment of iodoform. In all venereal sores, except those markedly inflamed, he uses it in powder or ethereal solution, and prefers it to all other applications. Internally he gives it in one-and-a-half-grain doses, made into a pill with extract of gentian. Three pills are given each day, increasing gradually until eight or ten pills are taken in twenty-four hours. He has used it with excellent effect in cases of obstinate syphilitic ulceration of the tongue, where the dorsum is covered with rugged thickened epithelium, which is constantly splitting into deep fissures and thus causing continual severe pain to the patient. This affection is often quite insensible to mercury, alkaline iodides, or arsenic,—the remedies usually beneficial. In three of these obstinate cases, where he had been treating the patients at intervals for years with the remedies just mentioned with little lasting benefit, iodoform pills have acted like a charm. Pain, immediately lessened, in two or three days ceased wholly; and the fissures healed rapidly, while the tongue soon shrank to its natural size. He thinks it acts more rapidly than potassic or other iodides, and is quite as readily borne.

TRACHEOTOMY IN DIPHTHERITIC CROUP (*The Chicago Medical Journal and Examiner*, February, 1878).—Dr. R. S. Bogue reports fifteen cases of tracheotomy for diphtheritic croup, six of them successful, and from this experience draws the following conclusions:

1. Membranous croup, diphtheritic croup, and diphtheria are all cases of the same disease, all diphtheritic. If not identical, they are so practically, as regards treatment; neither requiring treatment which is not applicable to the other. No antiphlogistics are useful for the one or the other. We believe that the essential difference is only in the place where the disease or membrane first locates itself. If in the pharynx, it is usually seen before the larynx becomes affected. If in the larynx, the swelling and deposit of membrane may in a very short time obstruct it sufficiently to destroy the patient even in a few hours.

2. That tracheotomy should be resorted to in all cases where death is threatened by suffocation from obstruction in the larynx, and as soon as the breathing has become insufficient to sustain the vital powers.

3. That it is best in the majority of cases to use an anæsthetic.

4. That the operation should be made slowly, and by carefully dissecting down upon the trachea, avoiding all vessels which can be seen and protected from division, and, unless there is some urgent reason for opening the trachea before all bleeding has ceased, this should first be controlled.

5. That a tube should be used. It will keep the wound open better than anything else, and cause as little irritation. It should be as large as the trachea will admit. The opening should be not less than about one-fourth of an inch, for the trachea of a child somewhat less than two years will admit readily one of that size. Should the wound ulcerate, the tube must be removed, if the wound will remain open, so as to allow easy breathing. It may be left out for a part or all of the day, or wholly, as the case will allow. Almost any stimulating application may be used for the wound, if it is unhealthy. If it is not, nothing need be done.

6. That the temperature of the room should be not less than 75°, moist, and free from currents of air. The air should, for the first few days at least, be kept thoroughly saturated with steam from boiling water or from the steam atomizer. The vapor may be medicated to suit the various fancies respecting the properties of medicaments. Dr. Bogue has used a solution of glycerin, about one-fifth or one-sixth part glycerin in plain water: a little chlorate of potassium, or carbolic acid, may be added.

MISCELLANY.

PHOTOGRAPHING COLORS.—Joseph Albert, photographer to the court at Vienna, has finally succeeded in photographing very perfectly the natural colors in the picture. The secret of the invention consists in the analysis of the white light into three colors, yellow, blue, and red, and in the recovery of the three colors ready for the press. On a plate, chemically prepared so as to receive but the yellow parts of the light, and the tones of the colors of the object to be reflected, the first photograph is taken, when a negative of that plate is at once put under the press, whose cylinder is dubbed over with yellow paint. None but the tones of the yellow colors are now seen in the impression. After that the object is photographed on the plate made to reflect but the blue colors. This plate now under the press reflects a blue impression, the cylinder being dubbed over with blue paint. In the same manner he receives

but the tones of the red colors by means of a third plate. Printing the individual pictures of the yellow, blue, and red over each other, a picture is produced true to nature, the colors intermixing by having been printed over each other.—*Journal of Applied Science.*

RUSSIAN EPIDEMICS.—According to the Russian press, an appeal has been made to the government from Alexandropol for a grant of money to cleanse the town, on the ground that, owing to the passage of seventy thousand sick and wounded through the town since the war began, and the neglect of the local authorities to disinfect the place, the streets and the houses are filled with disease. The death-rate is 55 per 1000, and nearly every house that has not been converted into a hospital for the army contains inhabitants stricken with typhus. At Tiflis the operations of one branch of the Red Cross Society are entirely suspended, all the doctors being dead. It is expected in the Caucasus that a plague will break out in the spring. At Penza smallpox and measles are rife. Near St. Petersburg the black smallpox has broken out among the Turkish prisoners interned at Gatchina; and it is further stated that ten thousand sick and wounded are awaiting removal at Sistova. So many are suffering from typhus that it is proposed to have "typhus trains" to carry soldiers infected with that disease only.

ENEMATA OF COLD WATER IN JAUNDICE.—Dr. Krull, in the *Berl. Klin. Woch.*, reports much benefit from this mode of treatment in catarrhal jaundice. Three or four pints or more are slowly injected, and retained as long as possible; after the second injection bile appears in the stools. The temperature is to be about 60° Fahr., and may be reduced to 50°. The most striking points in this treatment are the rapid relief to pain in the stomach, and the speedy return of appetite. The enemata should be given once in twenty-four hours. At present no case has resisted in Dr. Krull's hands seven such injections.—*The Doctor.*

NEW TEST FOR ALCOHOL.—A very sensitive reagent for alcohol, and one that is very simple in its mode of application, has been found by M. Jacquemart. It is a solution of nitrate of mercury obtained by treating the metal with a little nitric acid of average concentration. The action is vigorous and rapid. The mercury is brought in part to the minimum of oxidation, and if a little ammonia be added to the mixture, after the reaction, a dark precipitate is obtained, which is darker the more there is of alcohol in the product suspected. Methylic alcohols and similar liquids do not give a dark precipitate with ammonia.

TEST FOR MILK.—A German paper gives the following as a test for watered milk. A well-polished knitting-needle is dipped into a deep vessel of milk and immediately with-

drawn in an upright position. If the sample is pure, some of the fluid will hang to the needle, but if water has been added to the milk, even in small proportions, the fluid will not adhere to the needle.—*The Doctor.*

The women-doctor question is disturbing the peace of the British Medical Association. In 1875-6 a circular was sent out to all the members, asking for an opinion as to the expediency of admitting women. The result was 3072 noes, 1051 ayes. Nevertheless, the council has recently decided that it has no power to exclude women either from membership or participation in the meetings, and Dr. Wilson Fox has in consequence withdrawn from the Association.

The death of Dr. Fleetwood Churchill, the well-known obstetrician, occurred January 31.

NOTES AND QUERIES.

MR. EDITOR,—I have read with pleasure, in a recent number of the *Medical Times*, some remarks in relation to the chemical analysis of *dialyzed iron*, contributed by Professor Trimble. It is true that the "fear of exposure is the conservator of public morals," to a certain extent; but how does it benefit the medical practitioner if he is not to know withal which is the inferior or whose the superior preparation?

Does the law protect the manufacturer of inferior qualities, oftentimes the result of cheaper prices as the result of competition? Is there a penalty attaching to an author who would give the names of the manufacturers of the various specimens examined?

Should there be any difficulty in determining these questions, then let us have the names of the manufacturers of the best articles of their kind, those which stand nearest to the standard test.

Without this, it seems to me, volumes of contributions would not aid us; indeed, it would create a fear and distrust of obtaining those preparations not standard in strength nor as efficacious as we have a right to expect.

Very respectfully,

CHARLES G. FROWERT, M.D.

PHILADELPHIA, March 4, 1878.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM FEBRUARY 24 TO MARCH 9, 1878.

ALEXANDER, C. T., MAJOR AND SURGEON.—Relieved from duty in the Department of the Columbia, to proceed to St. Louis, Missouri, and report on arrival by letter to the Surgeon-General. S. O. 38, A. G. O., February 21, 1878.

BACHE, DALLAS, MAJOR AND SURGEON.—Granted leave of absence for one month. S. O. 31, Division of the Pacific and Department of California, February 18, 1878.

SMART, CHARLES, CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Commanding General Division of the Atlantic for assignment to temporary duty. S. O. 48, A. G. O., March 6, 1878.

CROOKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Arizona, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 48, c. s., A. G. O.

WINNE, C. K., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 17, Division of the Missouri, March 4, 1878.

HAVARD, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of Dakota, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 48, c. s., A. G. O.

TAYLOR, M. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month from March 3. S. O. 29, Department of the Gulf, February 27, 1878.

PHILADELPHIA, MARCH 30, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE ON FRACTURES OF THE HUMERUS AND COLLES' FRACTURE.

Delivered at the Bellevue Hospital, N. Y.,

BY FRANK H. HAMILTON, M.D.

Reported by P. BRYNBERG PORTER, M.D.

GENTLEMEN,—Fractures of the shaft of the humerus are sufficiently common to demand your careful consideration, and especially do they deserve attention from the fact that non-union occurs more frequently after this fracture than after any other. Next in frequency, in this respect, comes fracture of the femur. The humerus has, as you will readily see, if you reflect a moment, quite a strong resemblance to the femur in its position and relations. Like it, it is the upper bone, and stands alone, having no bone, like the radius or fibula, parallel with it. In two respects, however, fracture of the femur is quite different from fracture of the humerus. In the first place, as the femur is employed so much in walking, it is of the utmost importance that there should be as little shortening as possible, and our most earnest endeavors are made to accomplish this; while in fractures of the humerus it makes very little difference whether there is shortening or not, as the patient will be hardly likely to notice it at all. As a matter of fact, I found, in the very extensive observations I made in gathering statistics, that shortening is almost as uniform in fractures of the humerus as in those of the femur. Yet it causes no deformity, and so passes by unnoticed. Secondly, the muscles attached to the femur are immensely more powerful than those of the humerus. As I have said, it is not of much importance to avoid shortening in fractures of the latter, and I am not quite certain but that the shortening makes a better and firmer limb. Still, surgeons have tried all sorts of ingenious devices for the purpose of overcoming shortening. Lonsdale's splint was among the first of these, but it proved of no real service whatever in this respect. It was very properly condemned by Malgaigne, and soon became discarded. Since then

a great variety of others have been devised, and among them one by my friend Dr. Martin, of Boston; but, notwithstanding my friendship for him, as a surgeon I cannot but pronounce it perfectly useless, as all the rest have proved. Dr. Martin's splint, which I now show you, consists of a firm metallic rod, which can be lengthened and shortened at pleasure, with a leather cap attached to its upper extremity, which fits over the shoulder, and another at its lower extremity, which covers the elbow. I have never attempted to use it, for the simple reason that I am quite positive that it would fail, because no sufficient purchase can be obtained by it for extension and counter-extension. In a late case of compound fracture of the humerus at this hospital, Dr. Stephen Smith succeeded in making extension and counter-extension by keeping the patient in bed and using traction upon the arm extended at a right angle; but it is not desirable, as a rule, to confine patients to bed for a broken arm. In Dr. Smith's case the fractured limb after the treatment was actually an inch longer than the uninjured one, a result which I think must be attributed to the gradual opening of the joint. Dr. Clark, of St. Louis, is in the habit of making extension by means of a weight, and, though this method must be found very uncomfortable and inconvenient to the patient, it is probably effective as long as the latter is in a standing or sitting posture, but impracticable when he is lying down. All methods hitherto devised, therefore, are very imperfect, and surgeons, as a rule, have come to the conclusion that there is no use in trying to prevent a certain amount of shortening; so we have abandoned them all, and content ourselves with simply pulling out the fragments of bone into position, applying the side-splints, and *keeping the arm quiet*. This last point is a very important one, and I lay great stress upon it. The fact that in so many cases the fractured bone is not kept at rest accounts for the want of union which is, unfortunately, so frequent a result. This may, perhaps, seem somewhat contradictory to what I have already said; but motion upon a pivot, as in the case of the clavicle, for instance, does not interfere with union, while a to-and-fro motion of the fragments is certain to prevent it. As a rule, you will find that in fractures of

the humerus patients are constantly moving the forearm with the other hand, and this is almost certain to produce motion of the lower fragment upon the upper. This could be avoided if the arm could be left in a straight position; but that would be undesirable, and we have other means at our command for accomplishing the same result. During all my long years of practice I have never seen a case of fractured humerus (or, indeed, any other fracture whatever) fail to unite while under my own treatment.

And now let me explain to you the simple apparatus which I use, and the method of applying it. The essential feature of it is an outside splint, which fits on the top of the shoulder, resting against the head of the humerus, and extending down to just above the elbow. This may be made of felt, leather, or gutta-percha; but the first of these materials is the best and cheapest, and the one I usually employ. It should always be covered with cotton cloth, so that the bandages may be stitched fast to it. In applying the splint, do not let it overlap the condyles, and great care should be taken to prevent its slipping down. I regret to say that I have but a single case of fracture of the humerus in my wards at present, while I had no less than ten of fracture of the femur when I lectured on that subject; this, not because the latter is so much more frequent an accident than the former (for the one is just as common as the other), but, under ordinary circumstances, patients do not come into the hospital for fracture of the arm, while the reverse is true of fracture of the thigh.

In the first case which I show you, the dressing was applied without my knowledge, and, you will notice, in addition to the splint to the humerus which I have been describing another has been used for the forearm. In my own treatment I omit this, because, first, it is useless, and, second, it is apt to interfere with the circulation. It will usually be found to fit too tightly if the elbow-joint is closed, and too loosely if it is open, and it frequently causes swelling of the arm. This very rarely occurs when the forearm splint is not used, and if it should result it can be easily overcome by putting the patient to bed for a little while. For the second case which I present to you, a young lad, I am indebted to Dr. Smith; but, as the fracture

here is through the condyle, it involves a somewhat different treatment, which I cannot pause to detail now.

In fractures of the shaft of the humerus I always omit the angular splint at the elbow, as well as the forearm splint, because I desire that motion in the joint should be unrestrained. The elbow-splint produces a certain amount of ankylosis, which I am desirous above all things to avoid, because I am afraid that non-union will result in consequence. The moment that any stiffness occurs in the joint, the lower fragment begins to move upon the upper one; and that, as I have endeavored to impress upon you, is fatal to union.

Having no patient with fracture of the humerus upon whom to show you the application of the dressing which I approve, I will demonstrate it upon the healthy subject. The arm is held quite near the chest, and using, as you see, such a long felt splint as I have described, it is held in position by successive turns of the roller-bandage from top to bottom, and then reversed, and these should be made as snugly as possible. I am also in the habit of using a short padded splint, such as I show you, on the inside of the arm, not for any effect upon the fracture, but simply to avoid the pressure of the bandage in the axilla. The two splints are held in position by the same roller, and one element of success, as I mentioned, is to keep the arm quite snug to the chest while putting on the dressing. Some surgeons make a practice of carrying turns of the bandage around the opposite shoulder and axilla; but, though it may look very pretty, it is an utterly useless procedure, and may cause serious trouble by compressing the axillary vessels. I do not even cover up the top of the outside splint with the bandage. Having now applied the roller in the manner described, I myself stitch it securely to both splints, in order to keep it from slipping. The dressing is then finally completed by passing two or three turns of a bandage around the arm and chest, thus keeping the fractured humerus firmly in apposition to the latter, and by suspending the forearm in a sling. The bandage passing around the chest is for the purpose of keeping the arm quiet, an indication upon which I have dwelt with so much emphasis, and when it is employed you can allow just as much motion in the elbow-joint as you please, for it will not

disturb the fragments. You may practise for a number of years without seeing a case of non-union of fractured humerus; but you will find it a very serious accident if you should be unfortunate enough to meet with one, and hence the great desirableness of avoiding it if possible. I have recently had under treatment a case in which the bone had remained ununited for a year, and it was necessary to keep a gimlet in the fragments for six weeks; but a large abscess was thereby originated, and the patient endured a vast amount of suffering.

COLLES' FRACTURE.

I understand that one or two of my colleagues have recently been bringing this subject before the class; but if there is any difference between my own and their views in regard to it, you will at all events have the advantage of deciding for yourselves which opinions seem to be the most reliable.

True Colles' fracture, in which the radius is broken an inch and a half above the joint, is exceedingly rare; but the typical and classical fracture of the lower end of the radius, which goes by his name (but is in reality situated within half an inch of the joint), is sufficiently common. Mr. Colles really never saw in the cadaver the fracture which he described; but, always meeting it during life, he supposed it to be situated an inch or an inch and a half higher up than it really was. I may say that I greatly deprecate the practice of calling fractures or diseases after gentlemen's names, for it is very apt to be the case that in the course of a few years the affection so named is found to be in reality a very different one from that originally described. The English are especially given to this custom, and as examples I may mention Pott's disease of the spine and fracture of the fibula, Bright's disease, and Addison's disease.

I propose now to mention briefly a few of the varieties of fracture of the lower end of the radius. And, first, we have the typical one, which is usually caused by a fall upon the hands at the back-door in winter, and is hence frequently called the "back-door fracture." From the shape of the deformity it is also known as the "silver-fork fracture," and that is the *Fifth Avenue* name for it. When this fracture occurs, the individual usually falls only his own length, and it is far more

common in winter, when there is ice on the ground, than at any other season. If it were a month later in the season, I could to-day probably show you twenty, instead of only three, examples of it. The appearance of the hand after a fracture of this character is such as I show you here upon the model, and you will observe that there is a swelling upon the back of the wrist, and that the hand falls a little forward, as well as a little towards the radial side. If we could examine the bones, we should find that there was a fracture within one-half or three-fourths of an inch of the lower end of the radius, the lower fragment being simply tilted backward and thus giving rise to the swelling mentioned. The fracture is transverse, and I am sorry that I have not a bony specimen of it to show you; but the one that I expected to bring here to-day has become mislaid. In nine cases out of ten this is the character of the fracture, and you have simply to replace the fragment, which is most conveniently done by forcibly flexing the wrist across your knee. I met with this accident in my own person, a few years ago, while on shipboard, and, the fracture having been reduced in the manner described, there was no difficulty in effecting a cure by the simple application of a gutta-percha splint to the palmar surface.

But, unfortunately, there is, secondly, in addition to the fracture we have been considering, a giving way of the radio-ulnar ligament in a certain proportion of cases. Even if it does not yield altogether, it is at least put upon the stretch, giving rise often to considerable pain and soreness. Ligaments, when once disrupted, can never be made to unite as they were before, and hence, when this accident occurs, there is always more or less deformity remaining. The treatment is the same whether the ligament has given way or not; and when this takes place, it is always just so much the worse for the patient.

Thirdly, we may have also a fracture of the lower end and styloid process of the ulna, a condition which I do not very well know how to remedy; and,

Fourthly, we may have another more serious complication, viz., a comminution of the lower fragment, which, instead of being simply tilted backwards, is found to be broken into three or four pieces. A "back-door" fracture is never of this

character, for it requires a greater force to produce it than is brought into play in falling one's length. The specimen which I here show you is one which was presented to me by Prof. Wm. H. Van Buren, and was taken from a patient who died in the New York Hospital in consequence of the injuries giving rise to the fracture. The lower fragment, as you will observe, has been broken into four pieces, and there was probably some impaction at the time the accident occurred. This is, of course, a much more serious matter, but it is not the typical fracture upon which I am chiefly speaking to-day.

Fifthly, there is the fracture which Dr. J. Rhea Barton, of Philadelphia, described, but about which I must confess I am somewhat skeptical, viz., of the posterior tip of the lower end of the radius. I have never met with a single case of it, and have never been able to find the specimens of one in any museum. Lenoir and Nélaton each say they have seen one case of it; but whether the two cases were really the same one I do not know. Several years ago quite a number of cases were reported in the Philadelphia journals, but they were, undoubtedly, all Colles' fractures. If there is such a fracture, it must, at all events, be exceedingly rare, so that you will hardly be likely to meet with it in practice.

We come now to the subject of the treatment of these fractures of the lower end of the radius. It will be found that the hand is usually thrown towards the radial side (for the detailed explanation of which circumstance I must refer you to my work on fractures and dislocations), and this is the reason why so many pistol-shaped splints have always been used in these fractures. I now exhibit to you quite a number of them, which have been devised by different surgeons, and the object of all of them is to throw the hand in the opposite direction. Now, what effect has such a splint in producing the desired result? None whatever. In order really to have any effect in counteracting this tendency to adduction, the traction must be made forcibly. The easy position afforded by the pistol-splints which I show you causes the hand to move only in the wrist-joint, in which there is naturally very free lateral motion allowed. The only splint ever known by which sufficient adducting power to be of any practical service was obtained was that devised by Nélaton;

but no human being could possibly stand the pain occasioned by the stretching of the injured ligaments which would necessarily happen. You will presently see that I use the pistol-splint myself, but not for the purpose just mentioned. There is, indeed, no indication to fulfil by throwing the hand towards the ulnar side; the only real indications in the treatment being to restore the fragment to its own place and maintain it in position. When the fracture is once reduced, it remains so permanently with the greatest ease, for the least pressure in the opposite direction prevents the fragment from slipping back again. This fracture, however, which, as I said, is almost always transverse, is not quite so easy to reduce as it is to maintain the parts in position when the reduction has been made, and this is due to the denticular character of the surfaces where the bone has been broken off. A good reduction at first I regard as the most essential point of the treatment, and I lay special stress upon it, because I have seen so much injury to the joint under consideration result from tight bandaging, which is altogether unnecessary, and seems to be resorted to by some under the idea that great force is required to keep the lower fragment in position. If you ever get a good result in this fracture, it will be because you have reduced it well at first. Be very careful, then, to get the lower fragment into line before applying any bandage whatever, and "if at first you don't succeed, try, try again." I ought to remark here that in not one case out of five do I succeed in getting crepitus in reducing it, because the fragments glide over each other so smoothly. Having reduced it well, which, as I again remark, is a matter of the utmost importance, I care very little what apparel you make use of to retain the parts in position. There are a variety of appliances, by all of which you can get excellent results; but I must say that I like my own the best.

I am in the habit of employing the pistol-splint because it affords a better view of the seat of fracture, and thus enables me to see whether the fragments are in line. It is, of course, applied to the palmar surface, and this is sometimes the only splint I use, though ordinarily I prefer a back-splint also. When I am going to treat a Colles' fracture, I take a piece of common shingle and cut it to the shape

best adapted to the particular case, always taking care to hollow out a space into which the ball of the thumb may fit, and to cut it off at such a length as to reach only to the metacarpo-phalangeal articulation, so as not to interfere in the least with the free motion of the fingers. There is no reason whatever why the motion of the fingers and thumb should be interfered with, and by leaving them free you prevent any stiffness or tendency to ankylosis, as well as greatly enhance the comfort of the patient. The splint should reach as high up as the elbow, and should be carefully padded, especially in the portion covering the palm of the hand, in such a manner as to adapt itself well to the parts with which it comes in contact, except at the seat of fracture. It is a point of the utmost importance that there should be no padding between the lower fragment and the splint, but that here the space should be so open that there can be no possibility of any pressure upon the median nerve and the radial and ulnar arteries. Pressure upon the nerve always causes excessive pain, and there are eighteen or twenty cases on record in which sloughing of the hand has been reported from interference with its nerve and vascular supply. The bandage should never be put on tightly enough to do any mischief whatever, and the arm should be just as comfortable after the dressing is applied, as if lying on a pillow. To sum up, then, the treatment consists of, *first*, a complete reduction of the fracture at first, and, *second*, the retention of the parts in position by means of an appareil which shall be perfectly comfortable to the patient, and in which there can be no danger of pressure upon the nerve and arteries. The same treatment is equally applicable to all the complications of which I have spoken; though, fortunately for the surgeon, the injuries which are sufficient to produce the comminuted form of fracture almost always result fatally.

I have hitherto omitted to speak of the researches of Dr. Moore, of Rochester, a very candid surgeon, upon this subject. In two autopsies which he made he discovered that, in addition to the fracture and displacement of the radius, the tendon of the extensor carpi ulnaris muscle had been dislodged from its groove, and he was hence led to believe that this was not an infrequent occurrence. I cannot but

regard these, however, as very rare and exceptional cases, and I doubt very much if the tendon could be maintained in position, after having once slipped from its groove, by the treatment which I have described.

In all of these wrist-joint fractures it is important to give motion early; and fortunately, in the ordinary cases, we can do this at about the end of a week.

The first case that I show you is that of a young girl who received the injury by falling from a sofa, and you will observe that the dressing which the house-surgeon has placed upon her arm is not exactly such as I have described. It is not quite so convenient or so comfortable to the patient, and I should think there would be a little more danger of compression of the nerve and arteries with it; but still I do not doubt that a most excellent result will be obtained.

The second patient is an adult man, and, as no dressing has as yet been applied in this case, I will demonstrate upon him the method of applying my appareil. I first bring the arm to a right angle, and then put the two splints in position. You will observe that the palmar splint is sufficiently long to reach from the elbow to the metacarpo-phalangeal articulation, and that there is no padding within an inch of the lower fragment when it is adjusted, while, on the other hand, the dorsal splint (which is really not essential to the treatment) is short, and is especially well padded on the seat of fracture. In putting on the roller-bandage, I make it turn only tight enough to hold the splints snugly in place, and by no means so tight as to occasion any possible injury, taking care to leave the thumb free. I do not like strips of adhesive plaster for holding the splints in position, because they are always apt to be either too tight or too loose. Now the arm is put in a sling, and our patient is made perfectly comfortable.

A NEW SOURCE OF ATROPINE.—A new source of atropine has been noted by Dr. J. Tweedy, of the Royal London Ophthalmic Hospital. The alkaloid was derived from an Australian plant—the *Duboisia myoporoides*—of a tribe midway between the *Solanaceæ* and the *Scrofulariaceæ*, and the physiological properties were investigated by Dr. Sydney Ringer. The alkaloid would seem to be in all respects identical with atropine.—*Med. Press and Circular*.

ORIGINAL COMMUNICATIONS.

PAPER LINT.

BY W. W. KEEN, M.D.,

One of the Surgeons to St. Mary's Hospital, Philadelphia.

SOME time since, Messrs. Wyeth & Bro. sent me a sample of paper lint, which, after considerable trial, I have found so excellent that I desire to call the attention of the profession anew to this admirable substitute for ordinary patent lint.

The article in question comes in sheets, about twelve by eighteen inches, and about as thick as patent lint, and consists of pure paper felt. In order to test the relative absorbent powers of the paper and the patent lint, I made a number of comparative experiments, of which the following may serve as a sample. A piece of patent lint weighing one hundred and thirty-three grains, and measuring five and one-half by nine inches, was suspended over a basin of water so that one inch of it hung in the water and eight inches out of it. In eighteen minutes it was completely wet, and weighed six hundred grains, a gain of four hundred and sixty-seven grains, or three and one-half times its own weight. A piece of patent lint of the same weight, but measuring nine by nine inches, was similarly suspended, and after five hours it weighed only three hundred and sixty grains, a gain of two hundred and twenty-seven grains, or one and three-fourths times its own weight; only the part in the water was really wet, and for about two and one-half inches farther up it was damp, the remaining five and one-half inches being dry.

As to cost, the paper lint is vastly cheaper. If regard be had only to weight, a roll of patent lint weighs about twelve and three-fourths ounces, and costs one dollar and sixty cents, or about twelve and one-half cents an ounce. A pound of paper lint, sixteen ounces, costs fifty cents, or about three cents an ounce. In regard to surface-cost (and in practice this is the one to be chiefly considered) a similar disproportion exists. A roll of patent lint measures five yards by fifteen and one-fourth inches, or as nearly as may be nineteen square feet, at one dollar and sixty cents, which is eight and one-half cents per square foot. Paper lint varies somewhat in the number of sheets to the pound,

but eleven sheets (twelve by eighteen inches) are about an average, which would give sixteen and one-half square feet, at a cost of fifty cents, or about three cents per square foot. In other words, patent lint is over four times as costly per ounce, and nearly three times as costly per square foot.

Put to test of practical experience in my wards at St. Mary's Hospital, it has given great satisfaction, and is immensely superior in most respects to the patent lint. As an absorbent it is so far superior that there is no comparison between the two. As a means of applying moist dressings, such as lead water and laudanum, warm or cold water, and other solutions, it answers as well as ordinary lint except in one particular,—it tears too easily. To remedy this I have suggested to Messrs. Wyeth that a sufficient number of cotton or linen threads be added to the pulp to give it greater tenacity, and when this is done it will be better than the ordinary lint. For salves and other dry dressings on even or moderately uneven surfaces, it answers admirably, but on very uneven surfaces, as the ends of some stumps, it is not so pliable as patent lint and does not so readily adapt itself to the inequalities of the surface. I have also used it for belladonna plasters, etc., with good success. If, however, the plaster is so stiff as to require considerable rubbing, it is apt to scale off in layers, a defect which I suspect the linen or cotton threads above alluded to may very probably remedy.

Once that the proper tenacity, softness, and thickness are attained, it is easy to see to what excellent uses it may be applied. It can be impregnated with carbolic acid, salicylic acid, chloral, or other antiseptics, and used dry or wet; with astringents and hæmostatics; and coated with rubber on one surface will answer admirably for light poultices. I have so used it, covered with waxed paper, with excellent results. This waxed paper, I may say in passing, I introduced into St. Mary's Hospital some years ago, and it has almost entirely replaced the more expensive and scarcely more useful oiled silk. It is prepared in the hospital from French tissue-paper in sheets, and is of excellent quality and very cheap.

Since using the samples of paper sent me by Messrs. Wyeth, I have tried a similar article made by John Huffnagle, of

New Hope, Bucks county, Pennsylvania, and have obtained about equally satisfactory results both as to absorbent power and cheapness. This is already prepared for poultices and other wet dressings where evaporation is to be prevented.

I have also lately tried some patent lint and canton flannel, made absorbent or hygroscopic, by Hance Bros. & White. While far better than similar ordinary articles, neither was equal to the paper lint. The paper lint either absorbed more quickly, or, what is far more important, absorbed much more in proportion to its own weight, as the following experiment shows. A piece of paper lint, five and one-half inches square, weighing fifty-two grains, suspended partly in water as before, was wholly wet in seven and one-half minutes, and weighed three hundred and eight grains, a gain of two hundred and fifty-six grains, or five times its own weight. A similar-sized piece of hygroscopic patent lint weighed thirty-three grains, was wetted in twenty minutes, and weighed two hundred and one grains, a gain of one hundred and sixty-eight grains, or five times its own weight. A similar-sized piece of hygroscopic canton flannel weighed ninety-two grains, was wetted in twenty-one minutes, and weighed two hundred and ninety-nine grains, a gain of two hundred and seven grains, or two and one-fourth times its own weight. The cost of the hygroscopic patent lint is, I presume, somewhat more than that of the ordinary article.

A CASE OF STRANGULATED HERNIA.

BY A. P. FRICK,

A. A. Surgeon, U.S.A.

ON January 13, 1878, while in camp near Spearfish (Black Hills), D. T., with the recent expedition under command of Major A. W. Evans, 3d Cavalry, I was called in consultation to a case of strangulated hernia.

The previous history, as given me by Dr. Louthar, of Spearfish, the attending physician, is as follows, viz.:

J. S., age about 45, had an oblique inguinal hernia on the right side of some years' standing. Strangulation first took place January 5, in consequence of violent bodily exertion; reduced by taxis January 8, but gut became

strangulated again in the evening of the same day, and now resisted all efforts at reduction, while the most alarming symptoms incident to this condition set in.

At 11 A.M. on January 13, the fifth day of continued strangulation, I found the condition of the patient anything but encouraging. Semi-conscious, prostrated to the verge of collapse, pulse almost imperceptible, there seemed to be great risk that the patient would die under the knife; but, as the only chance for life, it was decided that I should operate.

An anæsthetic (two parts chloroform and three ether) was administered, and herniotomy performed by linear incision. Length of incision, about three inches; coverings carefully divided, layer after layer, on a grooved director, until the hernial sac was reached, which, being opened with the usual precautions, discharged a dark, turbid serum intermingled with small coagula. The intestine appeared quite dark, almost black; there was, however, no escape of gas, neither could any special change of consistence be detected. With but little hesitation I made my decision,—cautiously divided the stricture from within, returned the bowel, and closed the wound.

The after-treatment, very judiciously carried out by Dr. Louthar, consisted chiefly in keeping the patient at rest and in administering tonics, stimulants, and beef-essence.

January 14.—Pulse extremely low; surface cold; passes very offensive flatus; carbolic acid to be used freely, locally and about the room; chlorate of potassium internally; ice by the mouth to allay thirst; tonics, stimulants, and beef-essence continued.

January 15.—Flatulence continues; pulse a little stronger; same treatment.

January 16.—Pulse much improved; no further flatulence; patient has a little appetite, and, for the first time, a passage from the bowels; no change in treatment.

From the 16th to the 19th the improvement was steady and substantial. On the last-named date the command started for Fort Laramie; this was the seventh day after the operation, and, when last seen by me, the patient was apparently out of danger. Although I have been unable to hear of the case since, I have no doubt it resulted in complete recovery.

In this case a vigorous constitution, and the excellent state of health of the patient at the time strangulation took place, have contributed largely to the unexpectedly favorable result.

From the table of Mr. Gay, as given in works on surgery, showing the result in one hundred and eighteen cases operated on after different periods of strangulation, it appears that of four, delayed to the fifth day, there was no recovery.

FORT LARAMIE, WYOMING TERRITORY.

THE PHYSIOLOGICAL ACTION OF THE BROMIDE OF AMMONIUM.*

BY LOUIS BRECHEMIN, JR., M.D.,

Philadelphia.

GIVEN hypodermically to frogs, in doses of from one to five grains, bromide of ammonium causes at first a period of quietude and lessened irritability, then muscular relaxation, in which the animal submits to pinching, burning, or other irritation without giving any signs of recognition, reflex action and sensation seeming to be simultaneously abolished. In this state the animal either dies or falls into a series of tetanic convulsions, in one of which death occurs.

When the bromide of ammonium is given to pigeons in toxic doses, its first effect is sedative, the animal standing quietly and appearing inclined to sleep. In a variable time a condition of excitement succeeds: the bird is driven forward violently on the breast in strong convulsions, with forced, hurried, and gasping respiration. A series of spasms, with opisthotonos, follows, in one of which the animal, with wings and tail extended, dies.

In rabbits the first effect is quieting, followed by a state of muscular relaxation, the animal falling over on the side. In a short time a series of clonic convulsions occur, the respirations, which before were quick and hurried, becoming slower, weaker, and gasping. In this state death ensues.

Death, in both cold-blooded and warm-blooded animals, is caused undoubtedly by asphyxia. In the frog the heart is found beating for some time after respirations and voluntary movements have ceased. In pigeons the heart was observed to beat from two to three minutes after respirations had ceased.

Condition of the heart after death.—In frogs, in two experiments, the heart was dilated; in one experiment it was contracted. In four experiments on pigeons the heart was contracted, and in two experiments it was dilated, after death.

Convulsions.—In frogs, convulsions from poisoning by bromide of ammonium occurred in twelve out of twenty-nine experiments. In ten experiments on sound frogs, that is, those on whom no operation was performed, spasms occurred in

seven cases. Convulsions happened in each of the eight experiments on pigeons.

That the convulsions from poisoning by bromide of ammonium are not muscular or due to irritation of the peripheral afferent or efferent nerves was proved by protecting one or both posterior extremities of frogs by ligating either the crural artery or abdominal aorta. It was then found that the convulsions occurred as well in the non-poisoned as in the poisoned extremities. That they are not cerebral was proved in pigeons in which the spinal cord was cut before the exhibition of the medicine.

The convulsions produced in poisoning by bromide of ammonium are therefore spinal.

Paralysis.—That the poisoning by bromide of ammonium is not muscular or due to paralysis of the efferent nerves was proved by experiments, in which it is found that in frogs paralyzed by the drug the application of the galvanic current to the nerves or to the muscles themselves causes free muscular contractions.

It was also found that when one posterior extremity was protected from the action of the poison by tying the crural artery, there was no perceptible difference in the poisoned and the non-poisoned leg when their sciatic nerves were galvanized.

Having proved, then, that the paralysis in poisoning by bromide of ammonium is not muscular or due to paralysis of the motor nerves, it must be either cerebral or spinal. That it is not cerebral was proved by the fact that reflex actions after division of the spinal cord are abolished as quickly as in the sound animal.

The paralysis, therefore, in poisoning by bromide of ammonium is spinal, as was further shown in four experiments, in which the spinal cord was cut below the nerves supplying the anterior extremities, and all the blood-vessels supplying the divided part were severed.

That the paralysis is spinal is further proved by the fact that it occurred equally in the hind legs when the medicine was allowed full access to them as when the crural artery or abdominal aorta was tied.

The paralysis in poisoning by bromide of ammonium is therefore spinal.

Apparently, as was noticed in several experiments, paralysis of the peripheral ends of the afferent or sensory nerves occurs simultaneously with the spinal paralysis.

* This thesis is based upon thirty-three experiments reported in full in the original inaugural thesis.

The following conclusions are therefore deduced from the experiments:

1. The convulsions produced by poisonous doses of bromide of ammonium are spinal.

2. Bromide of ammonium produces paralysis of the receptive tract of the spinal cord, that is, of the part which receives and transmits impressions, and of the peripheral ends of the afferent or sensory nerves.

3. Death is produced by asphyxia.

4. The action of bromide of ammonium on the nervous system is, therefore, identical with that of the bromide of potassium.

RESTORING BACKWARD DISPLACEMENTS OF THE UTERUS FROM THE RECTUM.

BY H. W. STREETER, M.D.,

Watertown, N.Y.,

Surgeon to the Jefferson County Almshouse, Insane Asylum, and Jail.

FOR several years I was in the habit of reducing retro-displacements of the uterus by means of the orthodox apparatus, either extemporized or ready-made, as recommended in the books, namely, to push up the fundus by a probe or elevator of some kind. I say *retro-displacements* because I am thoroughly convinced that too much attention has been paid to the theoretical distinction between flexion and version. It is all well enough as an interesting question of diagnosis, but when you come to the most successful treatment it will generally be found to be a question of very little moment whether the uterus is bent or tipped; and most cases are both bent and tipped. Of course there are exceptions to this observation, but from a large experience I know this to be true of the great majority of cases. After following the usual routine, with the usual amount of success, I came across a case which resisted all reasonable uplifting pressure per vaginam. The patient was in exquisite agony, and something had to be done, and done at once. The case was acute in its immediate cause, being produced by a strain, but several years previously had been preceded by a fall, since which time there had been more or less uterine disturbance, pointing to a displacement. First, the bowel was thoroughly cleaned out by copious injections, and the former efforts

per vaginam were renewed in vain. A colpeurynter in the collapsed state was then inserted into the rectum and pushed up just beneath the fundus uteri. It was inflated rapidly and largely with water, probably to the extent of four or five syringefuls, and held there for five minutes. The woman was placed upon her abdomen and kept so for several days. The symptoms immediately disappeared, and examination showed that the uterus had been restored to its normal position.

I call particular attention to the great advantage of rectal over vaginal elevation, because of the greater leverage from the sphincter ani than from the sphincter vaginae. The former sphincter is much more firm, as every one knows, than the latter. I have repeated this operation in a great many cases since this first one with the most gratifying results. The after-treatment has been by pessary, and especially by keeping the bowel empty and the motions soft.

SUCCESSFUL OPERATION FOR EPITHELIAL CANCER OF THE RECTUM.

BY F. P. HOUSEKEEPER, M.D.

DURING the month of September, 1877, Miss M. came under my care, suffering from a pain in the rectum of four months' duration, which she attributed to hemorrhoids. As an examination was not permissible, her statement was relied on, and appropriate medicines given to allay the trouble. In the course of two weeks she again visited me, and reported herself no better, and the pain, which had been paroxysmal, *i.e.*, at the time of defecation, was continuous and almost unendurable. On examining the rectum there was an ulcerated space, with everted and indurated edges, extending from the external sphincter inwards about one and one-half inches, occupying the lateral portion of the bowel on the left side, discharging a creamy muco-pus. There was not any induration of the surrounding tissues; the cancerous mass occupying a space about one inch in diameter. The general appearance of the parts to me was that of epithelioma. Had always been healthy, except a previous attack of inflammatory rheumatism, which did not affect the heart. Her weight was one hundred and sixty pounds, no cancerous cachexia, and her general condition only failed as a resultant of the continual pain she was subjected to. My diagnosis was that of epithelial cancer, which was afterwards confirmed by Dr. Agnew, who was called to operate, November 10, 1877. The

patient was placed in the ordinary lithotomy position, and an operation similar to Lisfranc's performed. It was performed very carefully, requiring one hour and twenty-eight minutes; about one-half ounce of blood was lost.

There were almost two inches of the rectum excised, which upon microscopical examination did not show any infiltration of the cut edges. She was placed in bed, an anodyne administered, and rested perfectly during the night. I may state here that this was the only anodyne she received during her illness, as she did not suffer any pain from the day of the operation to her complete recovery. The highest point the temperature reached (taken daily) was 101° , pulse 120, two days after the operation, and was attributed more to a slight attack of rheumatism. The bowels were confined for nine days, and afterwards moved by a gentle cathartic, producing a smarting sensation at the anus, the cause of which was very apparent. She now has perfect control over the bowels even in diarrhoea. The parts healed rapidly with a dressing of pulv. iodoform, and carbolized oil. Rising from her bed seventeen days after the operation, she is now enjoying perfect health and attending to her household duties.

STRYCHNOS PSEUDOQUINIA.

IN the Brazilian exhibit at the Centennial Exhibition of 1876 were some roots stated by Prof. Saldanha to be those of *strychnos pseudoquinia*. Thinking that they might possibly contain an alkaloid, samples of the specimens presented by Prof. Saldanha to the Medical Department of the University were placed in the hands of Mr. James H. Wroth, assistant in the chemical laboratory, for examination. He makes the following report: the experiments as detailed were repeated upon both bark and wood. The negative results confirm those of Vauquelin and Mercadieu (Pereira's *Materia Medica*), and it may be considered determined that the drug contains no alkaloid.

Exp. I.—About 2 grm. of substance digested with SO_4H_2 for two hours, filtered. Excess of caustic potash added. Treated with ether. No result from evaporation or physiologically.

Exp. II.—Same treatment as above, chloroform substituted for ether. No result.

Exp. III.—5 grm. (about) treated with dilute SO_4H_2 . Filtered, evaporated nearly to dryness. Alcohol added and boiled. Filtered. No physiological action.

Exp. IV.—5 grm. (about) treated with distilled water, and digested for four days at low temperature. Filtered. No result from ether or chloroform.

Exp. V.—5 grm. digested for a day with acetic acid. Filtered, concentrated over water-bath. No result with ether or chloroform, or physiologically.

Exp. VI.—5 grm. digested for three days at temperature about 120°F. , with acetic acid. Filtered. No result with ether or chloroform.

In the above, ether and chloroform were used, giving negative results.

After making the above investigations, special tests were made for strychnia and quinia, with also negative results.

All the solutions contained a large proportion of tannic acid. H. C. W.

TRANSLATIONS.

ABSOLUTE REST IN THE TREATMENT OF TETANUS.—According to *Centralblatt für Chirurgie*, No. 41, 1877, p. 648, De Renzi recommends absolute rest in the treatment of tetanus, and bases his conclusions on the following experiments. He administered strychnia to frogs, and thus obtained a tetanic condition. It was found that the tetanic symptoms were more severe in frogs that lived in the light than in those kept in a dark place; and the spasms were developed more strongly and more quickly in animals kept in motion than in those remaining at rest. Doses of strychnia which killed them if the frogs were shaken failed to prove fatal when they were left absolutely at rest.

He, moreover, treated four tetanic patients by placing them in a carpeted and completely dark room, and by stopping their ears with wax to exclude noises, in order that the persons should have perfect quiet. Three of his cases, suffering respectively from traumatic tetanus, idiopathic tetanus, and strychnia-poisoning, recovered, while only one succumbed to the disease. J. B. R.

MORTIFICATION OF STUMPS FOLLOWING THE APPLICATION OF ESMARCH'S BANDAGE IN AMPUTATIONS.—We find in *Centralblatt für Chirurgie*, No. 41, 1877, p. 654, a case of this kind quoted from a Polish journal, where the patient, a girl of 11 years, was subjected to amputation at the lower third of the thigh thirty-six hours after having the leg crushed in a threshing-machine. Esmarch's elastic bandage was employed to arrest the circulation, but the following day mortification of the soft parts on the posterior and outer side of the stump occurred, and extended to the point of

constriction. A cure, however, took place finally. A sufficient number of such cases have now been recorded to make the surgeon see that the elastic bandage is not without danger, especially if it be applied in an improper manner. Four or five cases somewhat similar to this one of Szeparowicz's are reported in the *Archives of Clinical Surgery*, New York, August, 1877, and should serve to direct attention to the subject.

J. B. R.

EXTENSIVE SLOUGHING OF THE STOMACH AND DIAPHRAGM PROBABLY DUE TO SWALLOWING OF SOME CAUSTIC SUBSTANCE.—M. Dujardin-Beaumetz has reported an interesting case, of which, however, the history is very imperfect (see *La France Médicale*, 1877, No. 91, p. 724). The patient had been seized with hæmatemesis during defecation, and had eagerly drunk large amounts of water. When admitted to the hospital, there was found ulcerative stomatitis involving the lower lip, veil of the palate, and epiglottis. The patient ate, did not vomit, and did not complain of pain. At the end of eight days, or fourteen days after the accident, death occurred with vomiting of blood. The autopsy showed sloughing of the stomach and diaphragm to such an extent that the posterior wall of the stomach was almost completely destroyed, and the thorax and abdomen communicated so freely that the liver, spleen, and omentum were found in the thorax. The œsophagus was not examined, because the body was removed by the friends. It was considered that the man had taken some caustic with suicidal intent, but information could not be obtained of a satisfactory kind regarding the previous history. The specimens were interesting in a pathological and clinical point of view.

J. B. R.

INTESTINAL OCCLUSION CAUSED BY LUXATION OF THE SPLEEN.—Dr. Barbesin, of Pesth (*La France Méd.*, 1877, p. 748; from *Allg. Wien. Med. Zeitung*), publishes the case of a woman who entered the hospital giving all the symptoms of intestinal occlusion. Three days later she died. At the autopsy the spleen, which was normal in volume, occupied the left inguinal region, parallel with Poupart's ligament. Bands of connective tissue bound it to this ligament, to the rectum, to the vertebral column, to the small intestine, to the great omentum, to the sigmoid flexure, to the edge of the pubis, to the uterus, to the

Fallopian tube, and to the two ovaries. Its lower surface limited with the cavity of Douglas a space filled with sanious fluid, and the walls of which were sphacelated and covered with thin, brownish, false membranes. The gastro-splenic omentum, converted into a cord the size of the little finger, and seven centimetres in length, included the obliterated splenic vessels. The spleen itself was sphacelated. A loop of small intestine was found compressed between this ligamentous cord and the vertebral column.

x.

LESIONS OF THE ANTERIOR ROOTS IN DIPHTHERITIC PARALYSIS.—Dejerine examined post mortem three cases of diphtheritic spinal disease in children, in one of whom during life paralysis of almost all the muscles of the body had been observed in addition to the paralysis of the velum palati. In the other two cases a similar condition existed in the muscles of the upper extremities and neck. The anterior roots of the spinal nerves were placed in a one per cent. solution of hyperosmic acid for twenty-four hours and then examined. In the first and most severe case D. found in most of the nerve-fibres the signs of a far-advanced parenchymatous neuritis (degeneration). The axis cylinders were gone, the medulla fissured or infiltrated with drops of myeline; the nuclei of the nerve-sheaths as well as those of the intertubular connective tissue were multiplied. Similar changes were observed in some peripheral nerves taken from the muscles; the muscular fibres themselves seemed entirely intact. Similar though less marked were the changes observed in the other two cases, in which the paralytic symptoms had been less extensive and of shorter duration than in the first case. The changes in the nerves resembled those which appear when the nerves for any reason are deprived for a long period of the influence of their trophic centres, and it seems probable, according to Dejerine, that the changes in the peripheral nerves are dependent upon a (cellular) intramedullary lesion. He promises the results of the examination of the cord at a future time.—*Gaz. Méd.*, 1877, No. 33.

x.

ABSORPTION OF TINCTURE OF IODINE BY THE SKIN.—Dr. L. Menager (*Bull. Gén. de Thérap.*, 1878, p. 139) has experimented upon children with a solution of equal parts of tincture of iodine and glyce-

rin, rubbed into the skin, and has arrived at the following conclusions. 1. Iodine in tincture mixed with glycerin and applied to the external integument is absorbed. 2. This absorbed iodine is invariably found in the secretions and in the urine. (Dr. M. tests for iodine by adding a little starch to the urine in a test-tube and then dropping a few drops of nitroso-nitric acid into it. This gives a blue or violet color according to the quantity of starch present.) 3. This application may give rise to certain symptoms, usually a variety of mild temporary albuminuria. 4. Dressings containing tincture of iodine may be employed as a means of introducing this medicine into the system when it cannot be taken by the stomach. 5. It must not be forgotten that when this absorption takes place in patients subject to nervoso-vascular erethism, as in certain cases of phthisis, where these dressings are often practised, they may do more harm than good.

Bandages and dressings containing iodine constitute the best means of exciting cutaneous irritation in cases where the capillaries of the lungs are easily roused to excitation. They should therefore be considered as one of the means to be used in acute phthisis, or in those forms of the disease where it is accompanied by frequent attacks of congestion. x.

TREATMENT OF GANGLION.—Bidder, of Mannheim (*Cbl. f. Chir.*, 1877, No. 52), recommends the injection of carbolic acid as a safe and successful method of treating these annoying growths. The proper procedure is as follows. An ordinary hypodermic syringe, having a sharp needle with a cutting edge near the point, is filled with a two or three per cent. solution of carbolic acid. A fold of the skin being pinched up, the needle of the syringe is thrust under it until the point reaches the capsule of the ganglion. A little slit is made through this with the sharp-edged point of the needle, and then, the latter being slightly withdrawn, the contents of the ganglion are expressed into the surrounding tissues. The point of the needle is then once more inserted into the now emptied ganglion and a few drops of the carbolic-acid solution are injected. A simple water-dressing is afterwards applied. Bidder has been very successful in the treatment of ganglion by this method. x.

CLEANSING THE BLADDER WITHOUT THE USE OF THE CATHETER.—Dr. Berthole (*Cbl. f. Chir.*, No. 52, 1877; fr. *Gaz. Hebdom.*) suggests a method of injecting fluids into the bladder without the use of the catheter, a plan which, although not new, has not received the attention which perhaps it deserves.

It is known that if a stream of water or other fluid is introduced into the urethra it will, if entering under sufficient pressure, gradually dilate the sphincter vesicæ, and it may be caused to enter the bladder when through inflammation or otherwise the urethra is so sensitive as to prevent the passage of a metal or gum catheter.

In using the injection by Berthole's method the patient sits on the floor with his back against the wall, thighs and knees turned out, and the toes turned in. A vessel is placed conveniently to catch any water which may escape. An irrigator with a long tube, with a stop-cock somewhere in its course, is placed upon a bench near by. The tube of the irrigator terminates in a canula of hard rubber twelve to fourteen centimetres long and six millimetres in diameter, which is well oiled and inserted into the urethra, and the patient keeping this in place with the left hand can easily regulate the flow of the fluid with his right hand upon the stop-cock. When the latter is opened, the water usually penetrates into the bladder without the patient's being conscious of its entrance. So soon as he feels the desire to urinate, the stop-cock is to be turned off, as the bladder is then full. The patient can now empty the bladder at once or can retain the fluid some little time. The water should be warmed to the temperature of the body, and the best time for employing the injection is just before going to bed. A single injection, in cystitis, will thin the stagnant urine and deprive it of its irritating quality.

The indications for the direct injection of water (or medicated fluids) are as follows. 1. Diseases of the bladder, and particularly chronic essential or consecutive cystitis. In the former, B. considers this method specific; in consecutive cystitis it is only palliative, of course, since the cause (stone, etc.) must be removed. 2. Contraction of the neck of the bladder. 3. Diseases of the prostate, the injection here being directed against the consecutive vesical catarrh. 4. Diseases of the

urethra,—in particular, urethritis of the deeper portion, where contraction of the membranous portion and of the sphincter vesicæ, with consecutive catarrh, is present. Contra-indications: 1. Paralysis of the bladder. 2. Hypertrophy or other diseased condition of the prostate interfering with urination. 3. Stricture. x.

LYMPHADENOMA OF THE FACE.—RETINAL HEMORRHAGES—LEUKÆMIA.—J. Chauvel (*Cbl. f. Chir.*, No. 3, 1878; from *Gaz. Hebdom.*) reports a characteristic case of the affection described recently under the name of lymphadenoma or mycosis fungoides. A custom-house officer, 41 years of age, entered the hospital on account of a tumor on the left side of the face. He had always been healthy: no history of inherited or acquired syphilis or other disease. Four months previously, a small painless tumor had appeared spontaneously on the left upper eyelid. It grew very rapidly and began to pain. On entering the hospital the patient presented decided infiltration of the lymphatic glands of both sides of the neck, particularly the carotid glands along the sterno-mastoid. On the apex of the tumor, somewhat above the left eyebrow, was a reddish sensitive spot. The mucous membrane of the left cheek presented some grayish ulcers. A few days later, diffuse swelling of the face, particularly in the left supra-orbital region, was observed, extending somewhat over the median line towards the right. The cheek was double its normal thickness; the swelling faded insensibly into the surrounding tissues. There were severe neuralgic pains in the left side of the head; earthy coloration of the skin; great weakness. Under the mucous membrane of the cheek, hard nodules could be observed, with greenish-gray patches about the upper molars; some days later the right cheek became swollen, but its mucous membrane remained unchanged. The mouth gave a fetid odor. The patient was sleepless, but, in spite of extreme weakness, showed no disturbance of circulation, respiration, or digestion. Some days later the patient complained of a black spot before the right eye (the left eye was closed by the tumor), and on ophthalmoscopic examination several hemorrhagic spots could be observed on the retina. The diagnosis leukæmic retinitis was made. Excepting the glands of the neck, no other lymphatic glandular en-

largements were noted. The spleen was only slightly enlarged. The blood was not examined. The patient died at the end of four weeks. The post-mortem examination showed no emaciation. The tumor was situated chiefly in the skin and subcutaneous cellular tissue. Section showed all the soft tissues, down to the healthy periosteum, changed to a mottled structure. The lymphatic glands presented the same appearance, shown by the microscope to be that of a characteristic lymphatic tumor. The spleen was somewhat enlarged; the liver very large and pale, its intralobular capillaries showing a large proportion of white corpuscles; much albumen with fibrinous casts in the urine. Chauvel gives a second somewhat similar case, which, however, hardly seems of the same character as the one above noted. x.

THE GENITO-CRURAL FOLD AS A BREEDING-PLACE FOR OXYURIS.—Michelson (*Cbl. f. Med.*, p. 25, 1878; from *Berl. Klin. Wochens.*) gives the case of a boy of 13 apparently suffering from intertrigo. Microscopic examination of the epidermis showed the presence of oxyuris ova in considerable quantity. The history accounted for the presence of these in that the boy, who suffered from seat-worms, was accustomed to rub the anus with the front of his shirt-tail, drawing the latter back and forth between the nates and thighs, thus conveying the ova from one locality to the other. The origin of the eczema was probably due in part to the itching caused by creeping about of the worms and in part to the penetration of ova between the layers of the epidermis. Michelson used this opportunity to ascertain if the view that the oxyuris requires only warmth and moisture to develop is correct, or whether the intestinal juices are also needful. Covering the affected parts with moist wrappings, it was found that while the eczema spread rapidly, the oxyuris ova did not hatch, indicating the necessity for something more than mere warmth and moisture. The eczema was easily healed with a mixture of five parts of powdered starch and one part of salicylic acid. x.

ONE drop of the oil of eucalyptus, applied on cotton-wool to the sensitive dentine, is alleged to be an excellent local anæsthetic: if so, it should be a valuable remedy for toothache.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MARCH 30, 1878.

EDITORIAL.

PROGRESS AT THE UNIVERSITY.

OUR readers will remember a discussion which some time since occupied considerable space in the columns of this and other journals concerning the position of dentistry. The upshot of it was to show that there are two distinct ways of looking at dentistry,—the narrower viewing it as an artistic profession of itself; the wider seeing in it a specialty of medicine, combining science and art into a symmetrical whole. It was also clearly shown that if dentistry be a specialty of medicine the degree of D.D.S. is an anachronism, and has no more grounds of existence than the degree of D.O.S., Doctor of Ophthalmic Surgery, D.D.S., Doctor of Dermatological Surgery, etc., etc.

Strictly speaking, therefore, any school which would take the higher view of dentistry should abolish the degree of D.D.S.

Facts and customs are, however, frequently at variance with logic, and the statesman, either upon the wide stage of state government or the narrow one of directing an institution, must often sacrifice strict consistency to practical utility, doing not what is absolutely the best, but that which is best under existing circumstances.

We suppose that in their recent action in making a Dental Department the trustees of the University have been governed by such principles as these. They have clearly acknowledged the propriety of dentistry being considered a medical specialty, and have as clearly foreseen and provided for the wants of those persons who, either by adverse circumstances or their own intuitions, are led to adopt the narrower view of

the profession. The first impulse of the University authorities was to give no degree of D.D.S., and to teach dentistry only as a specialty of medicine. We think, however, that their final decision is the wisest. According to it, by substituting for such studies as gynæcology and medical chemistry, dental surgery, mechanical dentistry, dental metallurgy, and the like, the student can, in three years, take both the degrees M.D. and D.D.S., and fit himself to practise oral surgery. On the other hand, if he has but two winters at his disposal, he will receive an education much wider and more complete than is given in any of our dental colleges, and may rest upon his D.D.S. as sufficient for the practical purposes of life.

In order to show how much more extensive and thorough the proposed dental course is than that given in any of the dental colleges proper, it is only necessary to state that the winter session lasts during five months instead of four, that the number of professors is six instead of four, and that a special part of the course will be thorough practical training in a chemical laboratory.

As is well known, a few years since, the handsome structure now occupied by the Medical Department of the University was erected, at a cost of \$240,000. The great success of the new scheme of medical instruction and the prospective needs of the new Dental Department have, however, rendered even this building entirely insufficient, and the Board of Trustees have decided to put up a separate laboratory building. This will be situated south of the present medical hall, at a distance of some fifty feet, and connected with it by covered archways. It is to be built in harmony with the other University buildings, and is to be four stories high and one hundred and forty feet long by forty wide. The lower floor is to be devoted to a dental clinic room, the dental laboratories and lecture-rooms being in the

present medical hall, and is to be unconnected with the remainder of the building; in its long sweep and abundant light, it is, we believe, unequalled on the continent. It is to be entered from Spruce Street, and fitted up in the best style. The medical part of the building is entered from the rear. The second and third floors are devoted to the teaching of chemistry. Each of them will be furnished with working tables for two hundred men, balance-rooms, flue-closets, etc., etc. Under this arrangement medical students of the first and second years and dental students of the first year will be provided each with his own table and apparatus and will have every facility for becoming a practical chemist.

The fourth floor of the laboratory building is to be divided into five rooms. Two of these, each seventy by twenty feet, furnished with abundance of windows and with skylights, are to be devoted respectively to histological and pathological laboratories. They will each accommodate sixty men, and will be thoroughly equipped. The remaining rooms are to be devoted to physiology. They will contain about 2800 square feet of surface, will be abundantly lighted from all sides, and will furnish sufficient space for a long time to come. It is, however, in contemplation in the not very distant future to erect a distinct building upon the University grounds exclusively for a first-class physiological laboratory.

Surely the new movement at the University has been a success, and gathers momentum as it goes.

A TELEGRAM from Mysore states that the census shows that 25 per cent., or a million and a quarter, died during the famine, and that 35 per cent. of the poor classes have disappeared.

MAXIMS OF SUCCESS.—1. Never look surprised at anything. 2. Before stating your opinion of a case, on your second visit ascertain whether your previous directions have been complied with. 3. Never ask the same question twice.—*Dr. James Syme.*

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 10, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Laceration and inflammatory changes in the spinal cord resulting from fracture of the cervical vertebra. Presented by Dr. J. SOLIS COHEN.

THE case from which the specimen was obtained was under the care of my colleague, Dr. Marcus Franklin, in the surgical wards of the German Hospital.

H. P., age 24 years, was admitted to the German Hospital, August 22, on account of an injury received in falling backwards from a window fourteen feet from the ground, and striking the back of his neck upon some loose bricks. On admission there was complete sensory and motor paralysis extending from the sixth cervical vertebra downwards. The muscles responded to the induced current. The fæces were passed involuntarily, but there was retention of urine, and he was unconscious of the introduction of the catheter. The respiration was entirely diaphragmatic. His appetite was good, and he expressed himself as feeling first-rate. In a few days excessive tympanitis supervened, with constipation, which was only partly relieved by active cathartics and enemata. Wet cups, followed by ice, were applied to the spine.

The temperature in the mouth gradually rose to 103°, but the extremities were cold. On the third day he complained of something in his throat (a sensation apparently due to paralysis of the pharynx), and he had some difficulty in deglutition. Articulation was somewhat impaired. In other respects he felt pretty well, talked cheerfully, and had no idea of his critical condition. On the fifth day a partial and very incomplete sensation returned to the upper extremities, but the paralysis of motion continued complete. Some delirium was now observed, which was followed by epileptiform convulsive movements, which were not well marked on account of the paralysis. These symptoms increased till the time of death, which occurred on the tenth day after admission.

The immediate cause of death appeared to be due to the interference with the respiration owing to the paralysis of the scaleni and intercostals, and no doubt increased by the pressure of flatus on the diaphragm. At the post-mortem the fourth and fifth cervical vertebrae were found to be fractured through the laminae, and the spinous processes to be driven in upon the cord, which was quite disorganized at this point. The softening extended up a short distance. There were also evidences of meningitis.

Examination of spinal cord after immersion in alcohol during four months. By Dr. Morris Longstreth.

At the seat of injury, the dura mater, for the length of a finger's breadth, hangs like a loose sac; for the length of three-fourths inch above and below, the spinal cord is enlarged, and the dura over it is expanded and pretty tensely stretched. On laying open the dura mater, it is found thickened, especially on its posterior aspect, some distance above and below the seat of injury, especially in the latter direction. The arachnoid membrane is pretty completely adherent to the dura in the length of two and a half inches on the posterior surface, whilst anteriorly the adhesions are less general and not so firm, so that the cavity of the arachnoid was closed at this part; there is no evidence of hemorrhage into it. In the subarachnoid space below the seat of injury are several blood-clots, losing their color and undergoing absorption. At the seat of injury the arachnoid and pia mater are fused together and constitute a thick wall to what is now a cavity in the centre of the spinal cord. On dividing the membranes at this point, all semblance of the cord has disappeared; a little semi-fluid nervous matter is seen partially filling the space; from above and below the much-softened nervous tissue bulges inward, and forms the roof and floor of the cavity of abscess. The softening of the cord extends both above and below the seat of injury for some distance, gradually becoming less until the cord and membranes assume a normal consistence and appearance.

The microscope shows the ordinary appearance seen in nervous tissue resulting from contusion and the subsequent inflammation and softening,—fragments of tubules, numerous small nuclei, granules and oil globules, blood-coloring matter and large granular corpuscles.

Dr. SHAKESPEARE remarked that the specimen showed a complete destruction of the nervous structure of the spinal cord at the place of injury.

He thought the statement that "there was a partial return of sensation" in the upper members misleading. It was based upon no other fact than "the existence of pains," which might have been entirely subjective, since the sensibility of the upper members was not tested by pinching, pricking, or by any other means. The same sort of evidence could be made to prove a return of sensation in an amputated limb when irritation of the nerve-stumps produced a sensation which the patient referred to the ends of his absent fingers.

The so-called "return of sensation" in the case reported can be very readily understood, if one conceives an irritation at the point of injury, either inflammatory or by spiculæ of bone,—the reporter states that these were found in the mass of detritus between the interrupted

ends of the cord,—or by any other means whatever, of the central ends of the sensitive fibres from the arms as they pass up the columns of the cord, thus causing a sensation which, although it would have its origin at the point of injury, yet would be referred by the patient to the peripheral termination of those fibres.

Dislocation of cervical vertebræ, with injury of the spinal cord. Presented by Dr. M. LONGSTRETH.

Chas. K., æt. 37, German, admitted to the Pennsylvania Hospital October 18, 1875. Two days previously he had fallen backwards off a fence on which he was sitting, three or four feet to the ground, striking the back about the region of the shoulders. On admission, there was complete paralysis of motion in the legs; right arm could be moved a little, but not the left. Head can be turned only slightly to the right. No sensation below the level of the nipples on the trunk and legs, none on the arms below the deltoid region. Diaphragm moves freely. Retention of urine. No movement of the bowels. Priapism. Perfectly conscious and rational.

In the evening of the 18th, respiration became difficult, 48 per minute; pulse, 116; temperature, 101.5° Fahr.

The difficulty of respiration gradually increased, shortly before death becoming entirely intercostal in its type. Death on the third day.

For the clinical notes of the case, taken from the hospital records, I am indebted to Dr. J. B. Roberts.

The fifth cervical vertebra is separated from the cartilage on its under surface, and slides forward half the width of its body on the sixth vertebra. All the ligaments are torn, excepting a part of anterior common ligament, and those of the transverse processes, while the vertebræ themselves appear uninjured at this point. The spinous processes of the first and second dorsal vertebræ are fractured at a point about half-way in their length.

The spinal cord makes a bend and is compressed at the point of dislocation; the dura mater, as well as the ruptured cartilage and ligaments of the vertebra, is stained red. At the autopsy there was found considerable blood effused into the muscular tissue of the neck localized around the injury. The dura mater is reddened also at the part situated in the body of second dorsal. At both of these points the dura is slightly distended; at the upper point it is somewhat broadened and flattened by pressure, whilst at the lower one it is rounded. On laying open the dura along its posterior surface, no adhesions were found between it and the arachnoid; the arachnoid was normal and transparent, showing no evidence of hemorrhage, and no adhesion to the pia mater.

At the seat of the injuries the pia mater and cord show a darker color, are slightly en-

larged; the cord is very much softened, giving a feeling of fluctuation, but, on incision, it is not found diffuent, although the nervous tissue wells up through the cut surface of the membrane. The softening is more marked at the upper injury.

The length of the cord between these two places is decidedly less firm than normal, but otherwise shows no marked change.

Microscopically, the nervous tissue taken from the softened cord shows abundance of blood-coloring matters, with numerous broken tubules, quantities of granular detritus, and a very few large granular corpuscles.

Old inflammatory changes and ankylosis of cervical and dorsal vertebrae. Presented by Dr. MORRIS LONGSTRETH.

Richard E., æt. 50, colored, admitted to the Pennsylvania Hospital, November 2, 1873, having fallen down-stairs at 3 A.M. of that day. He lay there some hours, unable to move or call for help; was brought to the ward at 6 A.M., unable to articulate, arms and legs paralyzed; the neck was prominent in front, and a depression was felt at about the seventh cervical spine. In the afternoon he could talk without difficulty; there was paralysis of motion and sensation of left hand and forearm, but he had regained the power of motion, and sensation was perfect over the rest of the body. He could place either hand on his head, but moved them hesitatingly. The head moved a little to the left side, but not to the right. Complained of discomfort, but no severe pain. He required the use of the catheter. He was found dead at midnight, having continued in the same condition until that time. There was some evidence which led us to think that a sudden movement of the body caused a dislocation of the fracture. There was no history obtainable of previous disease affecting the neck or throat, and no evidence of syphilitic infection.

The clinical notes of the case were taken by Dr. Woodbury from the hospital records.

The specimen shows disease of all the cervical vertebrae, most markedly on their bodies and articular processes. The atlas is not shown in the preparation, but examination of it at the autopsy found it free from disease. In the removal of the vertebrae from the body, the saw-cut removed the odontoid process, which was also normal. The axis and the third vertebra are fused into one mass, showing their parts, however, distinctly. The ankylosis affects not only the bodies at the intervertebral discs, and the articulation at the transverse processes, but also the back parts of their arches at the base of the spinous processes.

The lower part of the third vertebra has the lower part of its body, which when normal projects downward and forward to meet the fourth, very much spread out, and shelved forward more than a half-inch, and this part is very uneven and jagged with small spiculæ

of bone. It would seem as though part of its body had been destroyed by caries. The junction of the third and fourth vertebrae gives the appearance on their anterior surface of a backward dislocation of the former, but the interior of the spinal canal disproves the occurrence of this condition.

The body of the fourth vertebra is increased in size in all directions; its upper border projects upward, and has a ragged edge slightly overlapping the remains of the intervertebral cartilage, as well as the vertebra above it; its central part is more prominent than normal; its lower border (epiphyseal plate) shows a line of separation perforated with large canals. This vertebra was pretty firmly united with the one below it, but there still remained a thin layer of unossified cartilage between them; their line of junction is very irregular and jagged.

The fifth and sixth vertebrae are firmly ankylosed throughout, showing as the only openings between them the two intervertebral foramina, and a small fissure at the base of their spinous processes; their bodies are considerably changed in form, broadened and irregular laterally, with anteriorly a smooth concave surface, perforated by numerous openings, but showing no trace of the normal line of separation; their laminae are broadened and thickened, and their transverse processes rounded and massive; their upper and lower terminations are very irregular, the lower one especially, which overlaps the seventh vertebra considerably on its right side.

The seventh vertebra has its body distorted, its anterior surface roughened and irregular, the edges projecting and jagged. The intervertebral cartilage between it and the first dorsal is normal, but the first dorsal has suffered to the same degree as the seventh cervical; both of them except in their bodies appear nearly normal.

The examination of the spinal cord was very imperfectly carried out, it being impossible to remove it except in fragments, without destroying the bones as a specimen, owing to the firmer connection of the dura mater in the spinal canal than usual.

The dura mater appeared, as seen through the opening between the separated and the fractured vertebrae, uninjured, but having a red color from blood-staining. The cord was softened, and there was considerable hemorrhage at the seat of injury.

The fracture and the probably subsequent dislocation were at the junction of the sixth and seventh cervical vertebrae.

Remarks.—The condition of the bone was the result of disease which long since had healed, although no history could be obtained indicating the time of its occurrence or its nature: in fact, there was no knowledge of the existence of any such condition until after the autopsy was made. While it is probable

that the patient himself could have furnished the information, had he been in a condition to communicate it, his friends knew nothing of it.

When death results *suddenly* from injury to the cervical portion of the spinal cord, I think it becomes a question whether it is not in such cases due to cardiac paralysis. I have no knowledge, however, of the precise mode of death from such injuries, and it would require a large number of post-mortem examinations to determine this question from the state of contraction of the ventricular cavities, which is so expressive in such points. If the death were due to a cardiac paralysis, coming suddenly and of purely nervous origin, its origin, I think, must be traced to injury of the cord, or the spinal nerve fibres communicating with cervical sympathetic ganglia, or their interganglionic cords from which arise the cardiac nerves passing to the special plexuses, or ganglia of the heart.

Dr. JOHN ASHHURST, JR., said, in regard to the cause of death in cases of dislocation of the vertebræ, that if the lesions were above the fourth cervical vertebra, instant death would result from implication of the phrenic nerve. When lower down, death was ordinarily due to paralysis of the diaphragm, caused not only by extension of spinal softening in an upward direction, but mechanically also by distention of the intestines with gas, from paralysis of the abdominal muscles. In answer to a question as to the frequency of dislocation of the vertebræ without fracture, Dr. A. said that it had been thought to be very rare by the older writers, but that later authors had mentioned it as occurring more frequently than was formerly supposed. He had himself never seen a case that merited the name of pure dislocation, and he believed there was generally some bone lesion present. Some years ago he had proposed the name *diastasis* for these cases, as there was a separation rather than a luxation such as occurs in the joints of the extremities. The lesion was most frequently met with in the cervical region, next in the lumbar, and least often in the dorsal spine, where the ribs act as splints in preventing displacement.

Perforated appendix vermiformis cæci caused by fecal concretion. Presented by Dr. R. G. CURTIN.

Through the kindness of Dr. Wm. C. Crooks, I am able to present this specimen. Mr. M., æt. 36, of sober, steady habits, sedentary life, and a wood-carver by occupation. About eighteen months previous to his last illness, he suffered from what the attending physician pronounced to be *dysentery*, bloody and mucous stools being frequent. Several weeks elapsed before he regained sufficient strength to resume work. After recovering from this attack he made no complaint, and appeared to enjoy good health up to ten months ago, when he experienced a severe

cramp-like pain in the lower bowel, which was almost instantly relieved by a dose of castor oil and laudanum, although a tenderness remained for a time over the right iliac region, which, however, attracted no special notice.

On the 24th of last month (December), while at light work, he was similarly affected, and in the evening took a dose of castor oil and laudanum. This not relieving him, he called at my office the next morning. Anticipating an attack of pelvic peritonitis, I advised him to go to bed, and directed warm applications to the abdomen, also administered an anodyne, to quiet and relieve pain. Next day when I visited him I found him suffering with a marked pelvic peritonitis. At the end of the fourth day his condition began to improve. A gentle purgative being administered, in connection with an enema of warm water, a discharge of small hardened faeces, followed by a copious discharge of muco-purulent matter, was effected. Apparent convalescence continued until the evening of the 3d instant, when the pain over the seat of the old soreness, in the right iliac region, accompanied by a small, quick pulse, tympanitic abdomen, cold extremities, and vomiting, became intense. Morphia, chloral, and bromide of potassium in large doses failed to give any relief, and death took place between 3 and 4 A.M.

Autopsy, six hours after death.—On opening the abdominal cavity the omentum and intestines were found matted together with a recently formed lymph (except as noted below). A creamy pus exuded from the interstices of the mass, amounting to perhaps four ounces. The rectum was found to be surrounded by old inflammatory induration. All around the right iliac region the small intestines, and the caput coli, as well as the rectum, showed evidence of old inflammatory trouble, being covered with, and glued together by, old lymph. Over the position of the appendix of the caput coli I separated the small intestines, which were adherent, and as the incarcerated appendix came into view, a small feculent nodule escaped from an ulcerated opening through the wall of the cæcal appendix, about an inch from the distal end. This nodule was one third of an inch in length, and about one eighth of an inch in diameter. It was quite firm at first, and seemed to have a minute white nucleus, but the whole of the pellet softened down when macerated in water. The ulcer freely communicated with the bowel above. Below the ulcer, the vermiform appendix was increased in size and very firm: the cavity of this portion was found to be obliterated. The organ was about two and three-fourths inches, which is rather longer than is usual.

Dr. LONGSTRETH said that disease around the appendix vermiformis was not so uncommon as the books would lead us to think, and

that, from considerable experience on the subject, some involvement of this region in an inflammatory lesion was not very rare, and that, too, without bad results in very many cases. Inflammation can occur at this part, entirely locally limited, and end rapidly by plastic adhesion, as we find, post mortem, is so frequently the case with the pleura; yet in the peritoneum, as in the pleura, there may be no life-history of the occurrence, with the symptoms which are usually considered to indicate an inflammation of a serous membrane. In the one case the attack may be looked on as a colic, in the other it may be thought of as a muscular rheumatic pain. In fact, from the anatomical relation of the two parts to their respective surroundings, it is conceivable that many times local inflammation might occur, and end by plastic adhesion, without involving the peritoneum generally; in the pleura, with its constant rubbing, it is much more difficult of conception how any irritant affecting one part does not rapidly involve the whole in inflammatory changes.

In regard to the question of the occurrence of inflammation remaining undiscovered, nothing is more likely, judged of by post-mortem experience; no disease, such as his observation, came more frequently to autopsy undiagnosed than peritonitis, and that, too, even when the inflammation is general, of some duration, and of a severe character. The class of cases in which he had met peritonitis, not positively known or even suspected during life, include perihepatitis with cirrhosis, tuberculosis, typhoid fever with or without perforation, and injuries or operations in the abdomen. The reverse of this statement is not an infrequent occurrence, that the diagnosis of peritonitis is not confirmed by the autopsy; and this statement does but confirm the general growing opinion that certainty of diagnosis in diseases, especially those leading to inflammation of the peritoneal membrane, is one of the most uncertain problems of the art.

In regard to the question of a necessary connection between the presence of hardened fecal matter in the appendix cæci and inflammation, it was the result of his observation, that fecal matter is pretty constantly present within the tube, but that its consistence and amount vary very greatly. In many cases, examined with care, he had found single small hardened masses; in a few instances there was more than one such mass; in one case, which he particularly calls to mind, the appendix was occupied in its entire length by masses having the date-seed form. In none of these cases was there peritonitis, although in some the mucous membrane was thickened.

Dr. SHAKESPEARE said, in respect to the presence of foreign bodies in the appendix vermiformis, that he had himself seen two or three examples, without any inflammatory

action occurring, and, so far as he could remember, it appeared to him not rare to find foreign substances in the appendix, when the post-mortem had been thorough. Dr. S. also thought it possible for foreign bodies to pass into the appendix and again out into the intestines. He believed that it was even exceptional for small smooth bodies to give rise to serious trouble originating in the appendix.

REVIEWS AND BOOK NOTICES.

A NEW SYSTEM OF MEDICINE, ENTITLED RECOGNIZANT MEDICINE OR THE STATE OF THE SICK. By BHOLANOTH BOSE, M.D. Lond., etc.

PRINCIPLES OF RATIONAL THERAPEUTICS, COMMENCED AS AN INQUIRY INTO THE RELATIVE VALUE OF QUININE AND ARSENIC IN AGUE. By BHOLANOTH BOSE, M.D. Lond., M.R.C.S. Eng., Her Majesty's Indian Service. London, J. & A. Churchill; Calcutta, Thacker, Sprule & Co., 1877.

To those who view the present system of medicine as an inchoate mass of empiricism, and who are searching for something new and startling, we recommend the above works. The first in order requires careful study before it can be asserted to be either true or false, the writer being a man of extensive research and erudition. The second, evidently later in composition, since it frequently refers for support to the previous volume, seems to be the production of a mind crude and almost childish. Observing that the writer is an Anglo-Indian, we have chosen to consider the former as the work of the English, the latter of the Hindoo, part of his nature, as the only way of reconciling the two. Certainly a comparison of the introduction to the Rational Therapeutics with many of the chapters in the New System of Medicine is calculated to call forth sheer amazement.

The New System is truly new. To study its leadings we prefer to notice rather the Rational Therapeutics. It is possible that a more severe study and repeated readings might alter our opinion, but it is hard on an uncertainty to undo the work of years and reduce the mind to the utter blank required before the system can be understood.

The medicine of the system is cell medicine. Diseases and states of the system depend on the cell itself. From the cell upward to the completed organism the system is built up. Our remedies are too powerful and fail to reach the cell. The infinitesimal only is suited for the infinitesimal,—not the billionths of ultra-homœopathy, but the millionths of Dr. Bose. All remedies act in two ways (we gather this from exhausting study): in large doses remedies act—as they do act; in minute doses they often (?) act in an entirely different way. How easily is homœopathy

reconciled to us! We are only on different sides of the shield. The minute dose is the cell medicine. All this is illustrated admirably by arsenic, the substitute for the rapidly failing supply of cinchona. But arsenic is only an illustration: every lesson is to be unlearned, all our terms and nomenclatures to be rewritten, and we must become familiar with a world of "cell tones," "bi," "tri," and "pertubulo cell tones," moto and sentio tones, leading us up through animal and vegetative tones to general tone or health. Muscular, nervous, and spiritual sense must be thoroughly understood; discordance, concordance, accordance, must be weighed and mastered: in fact, we are reminded at every page that it is a new system of the most ambitious and pretentious kind.

Why a moderate dose of arsenic, for instance, does not include the smaller doses required for the cells and produce the same valuable effects we fail to see, as we fail in the case of homœopathy to see the same thing. Evidently Dr. Bose considers the system of cells under the influence of a large dose in the condition of a millionaire without any small change. We give him the illustration; also we ask, Do not ten drops include the mysterious one drop, and if ten grains of sulphate of copper be ejected from the stomach, will not a trace be left to be absorbed and reach the cells? So that a large dose may include in its effects those of a small one.

The writer considers that remedies cannot reach the ultimate cells and fibres without fulfilling certain conditions. They must be bland and inoffensive, minutely and largely divided; must not change the blood; should contain, if possible, principles not alien to the blood, and act slowly and continuously. Such are cell tonics, and without fulfilling these conditions the impatient, too energetic dose of arsenic or strychnia may enter the portals indeed, but will fail to reach the penetralia of the system, where the cells sit like Minos and Rhadamanthus and exercise their power of selection on whatever reaches them. Imagine the joy of those cells when Hahnemann and Bose first discovered the way to supply them with so many necessary things! Picture a cell longing with unutterable yearnings for the ten-millionth of a grain of arsenic through weary years of hope deferred.

It may as well be said, after reading in *Rational Therapeutics*, p. 52, about "dogged ignorance" and "crying down everything new," that, granting that the cells are microscopic and have only microscopic needs, and granting that medicines must be divided to the infinitesimal to reach such cells, still, as the cells are in number infinite, and must require collectively an infinite number of such infinitesimal particles, we have to give them in all a reasonable dose, or the infinitesimal multiplied by the infinite. So that our author and most homœopaths of the strictest sect

argue, without knowing it, only for dilution; and dilution is an excellent thing, as will be found on consulting any recent work on therapeutics. Now, while admitting that by his forcible presentation of the subject of dilution Dr. Bose has earned our thanks; granting—because we cannot deny it, for want of Methusaleh's study-hours—that the New System of Medicine contains some great and original ideas, we can but regret that an entirely foreign nomenclature has been chosen in which to express it. Take the following paragraph as showing the perfection of the New System in giving a definite expression of the whole story of disease: "Hydrophobia = general existent (convulsions) and partial coexistent (lockjaw) and concordant spasms (tonic spasms) of voluntary muscles + excessive spinal motor accordance plus perverted mental accordance (fear of water) + canine poisoning," and say, average student and rational man, if the first effect of reading the above be not a suggestion of the wards of your neighboring lunatic asylum.

We do not, however, condemn these books, lest they prove, unpromising as they seem, to contain a germ of true thought which may lead some day to the sorely-needed new system of rational medicine; but we fear we shall not as a science mount up all at once through tubulo and pertubulo tones and the vegetative tone to the general tone of perfection.

E. W. W.

THE MEDICAL DIGEST. By RICHARD NEALE, M.D.

LECTURES ON SURGICAL PATHOLOGY AND THERAPEUTICS. By THEODOR BILLROTH. Translated from the Eighth German Edition.

These two very diverse works are the most recent publications of the New Sydenham Society, and have each their especial value. The first of them is really a bibliography or reference-book, and is stated to be the outcome of work during the leisure hours of thirty years. It contains an enormous number of references, but is far from complete.

The second volume is part of a work so well known to the profession, and so closely connected with the world-wide fame of its author, that we can only welcome it in its English dress and express satisfaction that the Sydenham Society has put it within the reach of the numerous practical surgeons in England and this country who are unable to read German.

THE MORTUARY EXPERIENCE OF THE MUTUAL LIFE INSURANCE COMPANY OF NEW YORK. By G. S. WINSTON, M.D., W. R. GILLETTE, M.D., and E. J. MARSH, M.D. Vol. ii. New York.

This is a tabulated report, with analyses, of the causes of death occurring in the insured of the company during thirty years. The

book is chiefly of interest as bearing upon questions arising in the business of life insurance. It will be a necessary integer in the library of every physician paying especial attention to such subjects.

ADDRESS BEFORE THE ROCKY MOUNTAIN MEDICAL ASSOCIATION, June 6, 1877. By J. M. TONER, M.D. Washington, D.C.

A curious and interesting address, of permanent value on account of the abundant information contained in it concerning the present and previous aborigines of this country.

REPORTS ON DISEASES OF THE CHEST. Under the direction of HORACE DOBELL, M.D. Vol. iii. London, 1878.

This is a continuation of the well-known and valuable reports of Dr. Dobell, and is even fuller and more thorough than those which have preceded it. It is stated that the reports are no longer to be annual, "but will appear at such times as the accumulation of important materials may render advisable." We sincerely trust that there will be no falling off in interest and no irregularity in publication of these very valuable works. The practitioner can maintain his status much better by buying and conning these reports than by devoting himself to new works on thoracic diseases as they appear.

MANAGEMENT OF THE INSANE IN GREAT BRITAIN. By H. B. WILBUR. Albany, 1877.

DISEASES OF THE MIND. By CHAS. F. FOL-SOM, M.D. Boston, 1877.

These two pamphlets, although launched under such different titles, are very parallel in their scope, and are important contributions to the discussion now going on concerning the management of the insane. To discuss them in detail would be to discuss the subjects upon which they treat, which this is hardly the time or place to do. So we leave them with the mere statement of their place in literature.

GLEANINGS FROM EXCHANGES.

BLOOD-POISONING CAUSED BY A PESSARY (*The Clinic*, January 19, 1878).—Dr. Tassius gives an account of a woman who had complained for some weeks of pains in the extremities, loss of appetite, alternating sensation of heat and cold, ill odors and taste, headache, sleeplessness, irregularity of bowels, etc., but no disturbances of the menstrual function. Careful physical examinations revealed nothing, and he continued for over a week to make daily visits; but, not being satisfied as to the nature of the case, he simply temporized by prescribing blindly. One day, however, the bed-clothing being thrown

back, he observed an unusually offensive odor which he believed to proceed from fecal matter. The patient said she herself had for some time noticed this, but could not account for it, as she was quite cleanly and was sure it could not proceed from the pessary which she had introduced a year previous for her prolapsus uteri. This complication, to which she seemed to attach no importance, she had not even mentioned heretofore, when questioned concerning uterine difficulties. His suspicions being at once aroused, he removed this pessary, when a most abominable stench followed. The ring, a rubber one, seemed to have been almost eaten away; it was friable, and the force applied in removing it was sufficient to break it into numerous pieces. Antiseptics being now freely used, locally and internally, the woman gradually improved in health, although she never entirely regained her previous strength. She died two years later of pulmonary phthisis, the seeds of which were probably sown by this quasi blood-poisoning.

HYDROPHOBIA (*The Boston Medical and Surgical Journal*, February 21, 1878).—Dr. J. B. Maynard reports the case of a gentleman who had been bitten by a dog some six weeks previously, and who when he came under observation had been troubled for two days with vague symptoms of distress, anorexia, lassitude, and lack of sleep, subsequently accompanied by difficulty of deglutition and slight spasmodic contractions of the throat. Inspection of the fauces revealed neither swelling, redness, nor any morbid condition to explain the dysphagia which he exerted his utmost to overcome. The spasmodic action hourly increased in severity, with some flow of saliva from the mouth. The following morning there was an aggravation of all the symptoms. The saliva became more profuse, more tenacious and adherent to the mouth; the delirium was more pronounced, though readily checked when the patient was suddenly or loudly addressed. On the evening of the fourth day from the first apparent illness the pulse became extremely rapid, and, with the altered tone and hoarseness of voice, indicated the near approach of death, which took place the same night. The combination of all the symptoms was unmistakably pathognomonic of this painful as well as inevitably fatal disease.

WOUNDED INTESTINES—PROTRUSION—REDUCTION—RECOVERY (*The Medical Record*, February 9, 1878).—Dr. M. Storrs reports the case of a man, æt. 30, who received a wound in the abdomen reaching from just below the umbilicus two inches horizontally to the right. About eighteen feet of small intestines had escaped, and there was a transverse wound of the intestine about one inch in length, but no escape of fecal matter. The anterior abdominal walls rested partly upon the spine and the posterior surface of

the abdominal cavity. The patient was etherized, and the wound in the bowel closed by three small interrupted silk sutures. Two strong and long silk ligatures were passed through the abdominal parietes, including the peritoneum, one on each side of the wound. These were given to assistants upon opposite sides, with directions to draw with nearly full strength upwards from the wound, and obliquely to each other. The intestine was then worked in with the fingers, an inch or two at each effort. The external wound was closed with the interrupted metallic suture; cloths wet with spirits and water were applied, and morphine was given. For four days there was some pain and vomiting and tympany. These disappeared, however, and two weeks after the reception of the injury the patient resumed his work in a manufacturing establishment.

Dr. Storrs remarks that the facility of reduction in this case was due to the traction by the ligatures. When this was diminished or stopped, no headway could be made. When vigorously used, the reduction was comparatively easy and rapid, and the bowel was subjected to much less handling. In a word, this procedure accomplished the following desirable ends:

First. It enlarged the opening beyond the natural limits and beyond the limits through which the parts escaped.

Second. Including the peritoneum in the grasp of the ligatures, there was less danger in the taxis of separating it from the abdominal parietes.

Third. Pressure of the abdomen antagonistic to reduction was removed.

Fourth. An empty chamber was afforded, into which the protruded parts were invited to return and to remain when replaced.

SCRIVENER'S CRAMP (*The British Medical Journal*, January 19, 1878).—Dr. Leonardo Bianchi reports five cases of writer's palsy, calls attention to their different clinical characters, and believes that the following assertions may be made without danger of contradiction:

1. The condition or the morbid process in the professional dyscinesæ, and its seat, differ in different cases.

2. The difference in the disturbing process of the disease, in its seat, and in the mechanism by which the malady is determined, is perfectly in harmony with the difference of the clinical forms.

3. The prognosis may be considered less grave than most pathologists believe.

4. The treatment, electric or internal, in order that it may obtain a greater average of recoveries, must be conformable to the clinical character of the disease, which differs in various cases, and which must indicate when the ascending or the descending current may have a better effect on the spinal cord and on the nerves, when simultaneous faradization of

the muscles and of the skin (disturbance of tactile sense) may be applied with success, when galvanization of the brain or of the sympathetic nerves in the neck is useful, and when the hypodermic injection of strychnia, exclusively or associated with an established method of electrization, may be of more utility.

STRICTURES OF THE INTESTINES (*The British Medical Journal*, January 26, 1878).—Dr. Sidney Coupland and Mr. Henry Morris, after carefully examining all the statistics in relation to intestinal obstruction, come to several general conclusions in regard to the usual seat, termination, and treatment of this disease:

In round numbers, nearly three-fourths of the cases of stricture involve the lower end of the intestine, the number met with in the sigmoid flexure and in the rectum being practically equal; whilst of the remaining one-fourth the ascending colon is the rarest and the cæcum the next rarest seat, the remainder being equally shared by the regions of the transverse colon and the descending colon. In all but an insignificant minority of cases the disease is seated below the cæcum; and this broad general conclusion approximates tolerably closely with the statements of the authorities upon this subject.

In general terms, it may be said that the majority of the strictures are malignant, and this notwithstanding the fact that few are associated with secondary infection of remote viscera. This may be explained by reason of the new growths mostly belonging to the class of epitheliomata, which are notoriously the most local of all forms of cancer, and also possibly because they lead to fatal results before the system comes to be infected.

In the course of inquiry they were struck particularly by the fact that in a large number of cases in which the obstruction was complete and where it remained until death, unrelieved by the operation of colotomy, the fatal issue was brought about by the occurrence of perforation of the gut either just above the seat of stricture or at the cæcum; and it is upon the latter complication that they especially insist.

These cases all illustrate forcibly the fact of cæcal ulceration in cases of stricture even so far removed from the cæcum as the lower end of the rectum. The reason why the cæcum suffers in this way is not far to seek. In cases of simple accumulation, it is generally the chief part to be involved; and in cases of accumulation from organic stricture beyond, the same causes operate with increased force. These are, first, the shape of the cæcum, a mere *cul-de-sac*, above and on the inner side of which the ileum opens at a right angle. It thus acts as a kind of reservoir, where, in cases of obstruction in the course of the large bowel beyond, it serves as it were for the meeting of the two currents, that, namely, setting down-

wards from the ileum, and that regurgitated backwards from the seat of obstruction. Its dependent position is a second factor favorable to accumulation within it. More effectual still is its fixity, placed as it is between the abdominal wall in front and the iliacus muscle behind, and only partially invested by peritoneum, except in rare cases. Hence its power of independent movement is very slight; and that will be lost with the increasing distention. Contrast this with the transverse colon, which, being as a rule more free, is enabled, so long as its muscular walls retain their tonicity, to empty itself. Further, to all this must be added the constant chafing of the distended gut by the action of the abdominal and iliacus muscles between which it is placed. The treatment should be based upon a knowledge of these facts.

Obviously, those cases of rectal cancer must be set aside in which the diagnosis by means of physical examination is easy, or in which the nature of the case has been made out long prior to the supervision of total obstruction. Of course, in such cases the only rational procedure is that universally pursued by surgeons, viz., left colotomy; and in all such cases the writers recognize the futility of delay, and the long-lasting relief, for months or even for years, frequently obtained by that operation. But in all other cases, where the history is one of chronic obstruction, where the age of the patient favors the view of cancer, where, in fine, it is probable that a stricture of the bowel exists, then, without wasting time over repeated injections, administering powerful and harmful purgatives, they think that recourse should speedily be had to colotomy in the right loin. They advise this operation, because in a certain proportion of cases (about one-fourth) the stricture is higher than the sigmoid flexure; because in all these cases, whether the obstructing cause be far from or near to the cæcum, there is undue strain thrown upon that portion of the canal; and because the only chance of a favorable issue (in so far as an operation for relief of symptoms can be said to have a favorable result) obviously lies in giving prompt and early relief to the cæcum thus overstrained. It must be borne in mind that cases have occurred in which, the symptoms pointing to the disease in the sigmoid flexure, the descending colon has been opened and found to be empty, owing to the obstruction being situated in the course of the transverse colon or in one of its flexures. Had the operation of right colotomy been performed, not only would it have been above the seat of stricture, but it would also have at once unloaded the distended cæcum. The danger of delaying this operation cannot be too strictly insisted upon. Unfortunately, in the majority of cases the surgeon is not called until the obstruction has been already complete for some time and the cæcum has suffered in proportion.

MORPHIA AND CHLOROFORM NARCOSIS (*New York Medical Journal*, March, 1878).—König recommends strongly this combination. It is especially valuable in drinkers, and those who, for various reasons, are questionable subjects for chloroform, and in operations, too, which do not permit profound narcosis, as those about the face. One or two, or even three, hypodermic injections of one-fifteenth to one-seventh of a grain of sulphate of morphia precede the chloroform, and the patients are rendered insensible to pain, yet not wholly unconscious.

MISCELLANY.

MALIGNANT SCARLATINA TREATED BY SALICYLIC ACID.—A recent number of the *Berliner Klinische Wochenschrift* contains an account of a severe case of malignant scarlatina, in the treatment of which salicylic acid, given internally and injected into the nose, produced the happiest results. The patient was a boy, thirteen years of age, who had been suffering for some weeks from symptoms of gastro-enteritis. On the second day of the scarlatinal eruption, diphtheritic patches appeared on the pharynx and nasal cavities, and on the integument of the nose and lips. These were accompanied by ulceration, and a copious discharge from the nose, with a peculiar fetid odor. The pulse was 150; the temperature 105.8°. A grain of salicylic acid was administered every hour, and a solution, containing one grain to the ounce, was injected into the nasal cavities every two hours. Soup, wine, and eggs were freely given, and the patient's body was ordered to be frequently sponged with cold water. Under this treatment the symptoms gradually subsided. After the first injection the fetid odor began to disappear. Altogether the boy took about ninety grains of the acid. He was convalescent in three weeks. Symptoms of intestinal catarrh, apparently caused by the acid, yielded readily to treatment.

PILOCARPINE AS A MYOTIC.—Dr. Galezowski recently read before the Biological Society of Paris a paper which is worthy of much attention from ophthalmologists. He states that pilocarpine is, as a myotic, equal in power to eserine, but it has the great advantage over the latter in producing less irritation or other mischief in the eye; for he has noticed, after the use of eserine, that the patients have complained of intense ocular pains, followed by conjunctivitis attended with nausea. He employs either the nitrate or the sulphate, in solution. With the nitrate, the strength of the solution is twenty centigrammes to ten grammes of distilled water; with the sulphate, ten centigrammes to six grammes. He prefers cherry-laurel water for the solution, as he has noticed that the pilo-

carpine loses its myotic properties after a time when it is made up with ordinary distilled water; and care must be taken that, whatever salt is employed, it be perfectly neutral.

THE MILK OF AN ESQUIMAUX FEMALE.—They do not always manage things better abroad, for it appears that in Belgium females of the human race are occasionally classed among animals and domiciled in the Garden of the Belgian Zoological Society. However this may be, a young Esquimaux mother, with two infants at the breast, is now being exhibited at the Brussels Garden, and Dr. Coudereau has analyzed her milk, with the object of comparing it to that of a European mother. The results show that Esquimaux milk contains a smaller proportion of salts than the European, but is much richer in saccharine and in fatty materials. This excess of hydro-carbonated elements may be attributed to the ordinary diet of the Esquimaux, who, as is well known, consume large quantities of fat, and are thus enabled to bear the excessive cold of their climate.

SEWAGE STRATA IN RIVERS.—At the last meeting of the Royal Irish Academy Dr. L. Studdert read a paper giving the results of a chemical examination of the mixed waters of the estuary of the river Liffey. It was found that from surface to bottom the sewage matter decreases, while the sea-water increases, in a given measure of the waters. A large proportion of the sewage discharged into the Liffey appears, at flood tide and in dry weather, to be contained in the first inch of surface, which, under the summer sun, would account for the noxious vapors emitted. Much of this superincumbent sewage was found forced up by waves or wind as far as two hundred and fifty yards above any city outfall. The like foul deposit is reported to be thrown up stream from the mouth of the intercepting sewer constructed in the Thames below London.—*Medical Press and Circular.*

BULLET IN THE BRAIN FOR THIRTEEN YEARS.—In the "Transactions of the West Virginia Medical Society" for 1877, Dr. T. B. Camden reports a case in which the subject was shot whilst serving with General Jackson, of the Confederate army, in 1864, in the head. At first senseless, in two months he was able to return to duty, and served during the remainder of the war. In 1868 he had "flighty spells," which disappeared after a severe illness. In 1873 he had an attack of convulsions after working in the sun. In August, 1874, this recurred, and he subsequently became insane. After his death, which took place February, 1877, an abscess of the brain was found leading to an encysted buckshot situated two inches within the brain.

A SUCCESSFUL GASTROSTOMY.—Dr. F. Trendelenburg reports in the *Wiener Med. Presse* another successful case of gastrostomy to be added to the hitherto unique case of

Verneuil. A boy aged seven years, the subject of impassable stricture of the œsophagus from swallowing caustic potash, had fallen into extreme marasmus. Gastrostomy was performed without bad effects, and two days afterwards nourishment could be introduced into the stomach through the small resulting gastric fistula. A small drainage-tube of the thickness of the little finger was introduced into the fistula, into which was passed a thicker glass tube having attached to it an elastic gum catheter reaching to the mouth. When the boy wants to eat he chews his food and expels the masticated mass through the tube into the stomach. Four months after the operation his weight had increased by a fourth.

THE twenty universities of Northern Germany cost the country annually about two millions of dollars. The University of Leipzig alone receives two hundred and fifty thousand dollars. These twenty universities have a staff of twelve hundred and fifty professors, who receive salaries varying from five hundred dollars to three thousand dollars. The young man who embraces the career of teaching can calculate on having a salary of two thousand dollars when he reaches the age of thirty-five. He is certain also of a pension when retired. Germany has a university for every two millions of inhabitants, Austria one for five millions, England one for seven millions, and Switzerland one for one million.—*Boston Medical and Surgical Journal.*

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM MARCH 10 TO MARCH 23, 1878.

SMART, CHARLES, CAPTAIN AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Preble, Maine. S. O. 19, Division of the Atlantic, March 11, 1878.

VICKERY, R. S., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months, with permission to go beyond sea. S. O. 58, A. G. O., March 18, 1878.

CARVALLO, C., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended two months. S. O. 51, A. G. O., March 9, 1878.

LORING, L. Y., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Arizona, and, on expiration of his present leave of absence, ordered before the Army Medical Board, New York City, for examination for promotion, and on its completion report by letter to the Surgeon-General. S. O. 59, A. G. O., March 19, 1878.

PORTER, J. Y., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for twenty days, and to furnish satisfactory medical attendance during his absence. S. O. 29, Department of the South, March 12, 1878.

BEALL, G. T., CAPTAIN AND MEDICAL STOREKEEPER.—Granted leave of absence for two months on surgeon's certificate of disability. S. O. 51, c. s., A. G. O.

The following-named assistant-surgeons have been ordered to report in person to the President of the Army Medical Board, in session in New York City, for examination for promotion, and upon completion of their examination to return to their proper stations: S. S. JESSOP, PETER MOFFATT, CHARLES STYER, J. K. CORSON, and Wm. R. STEINMETZ.

PHILADELPHIA, APRIL 13, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON THE DIAGNOSIS AND TREATMENT OF REDUCIBLE HERNIA.

Delivered before the Medical Class of the University of Pennsylvania

BY D. HAYES AGNEW, M.D.,

Professor of Surgery in the Medical School.

(Reported for the *Medical Times*.)

HERNIAS are in general divided into three classes,—viz., *congenital* hernia, or that which exists at birth; *infantile* hernia, or that which comes on after birth, being produced by excessive crying or straining; and *acquired* or adult hernia. To my mind a much better division would be into *congenital* and *acquired* hernia, *acquired* to include the infantile and adult forms.

Let us first consider the congenital hernias. A congenital hernia may be either femoral or inguinal. You all know that at about the sixth or seventh month of pregnancy the child's testicles begin their descent in the inguinal canal. In the act of descending the testicles carry with them that portion of the peritoneum which is to form in time the tunica vaginalis testis. After the descent of these bodies, if development goes on properly, a contraction takes place in that part of the inguinal canal just below the external abdominal ring. This contraction, if it is perfect, shuts off completely the testes from the peritoneal cavity. But suppose that this contraction does not take place? The intestine may at any time slip down more or less through the external abdominal ring and so form a hernia. The same thing may occur in the case of an umbilical hernia. The normal contraction has not been accomplished, and so the intestines find an unnatural means of outlet.

In the case of acquired hernias there may not have been perhaps any arrested development, but the ring has not been firmly enough closed to prevent the forcible passage of the intestine. The infant or adult is suffering from a severe acute or chronic cough, strains violently perhaps, when the constriction suddenly dilates and the bowels slip through.

The signs of hernia are divisible into (1) general and (2) special.

Under general signs we have to consider (1) the presence of a tumor in certain definite regions, (a) in the inguinal region, (b) in the groin near Poupart's ligament, and (c) near the navel. (2) We find that the tumor is of variable size, being small at one time and large at another. (3) We are able to notice a decided change in position; the tumor is now present in the scrotum, and now has disappeared entirely from view. (4) The tumor is found to change its position with changes in the position of the body. When the patient stands upright the tumor is in view; when he lies prone it is gone from sight. (5) Percussion of the tumor, if it be an enterocele alone, elicits a tympanitic sound; if there is omentum alone, and no intestine, the sound will be flat as of a doughy mass; if both intestine and omentum be present, percussion will reveal flatness over one site and elsewhere resonance. (An omental hernia is more common on the left than on the right side.) (6) A reducible hernia can always be replaced by manipulation.

The special symptoms of hernia are those referable to the several varieties of the disease. *Complete oblique inguinal* hernia follows the course of the inguinal canal and makes its way into the scrotum.

This form of hernia is to be distinguished from hydrocele by the following special symptoms. (I may say, in passing, that the diagnosis between these two affections is not easy, and that the trocar is quite frequently thrust into the contents of an inguinal hernia, mistaking it for hydrocele.) (1) If we inquire carefully into a case of hydrocele we will find that the swelling began at the bottom of the scrotum and gradually extended upward; hernia, of course, begins above and goes downward. (2) When the patient lies down, a hernia (that is, a reducible hernia) can be pushed back or will disappear spontaneously. Of course this is not the case with hydrocele. (3) If the tumor be a hydrocele, by taking the patient into a dark room and placing a candle on one side of the mass, being careful to cut off all the rays of light from above, it will appear translucent. There would evidently be no translucency if the tumor contained omentum, or intestines, unless, indeed, there

were a partial dropsy of the sac, in which case part of the tumor would be partly translucent and partly opaque.

How is inguinal hernia to be distinguished from scrotal hæmatocele? Hæmatocele is always the result of some strain, blow, or fall. But hæmatocele gives, like hernia, an opaque tumor. How draw the distinction in this respect? The surest mode of diagnosis is the introduction of a very minute exploring needle. If hernia, no result will be had; if hæmatocele, there will be a few drops of blood; if hydrocele, a straw-colored liquid. It is generally held that an exploring needle can do no harm, and yet I am not quite sure that it is an entirely innocuous means of diagnosis.

Varicocele is, as you know, an enlargement of the spermatic veins. How is hernia to be distinguished from varicocele? (1) Varicocele occurs almost always (in 999 cases out of 1000) on the left side; hernia may be present on either side. (2) When you take hold of a varicocele you find, not a smooth and elastic, not even a doughy feel, but it is as if you had taken hold of a bundle of knotted skeins. A hernia is a smooth and elastic mass. (3) Let the patient take the recumbent position. Both hernia and varicocele would spontaneously disappear. But now press your finger on the external abdominal ring, and let the patient stand up again and cough. Varicocele will descend again, but not hernia. So much for the special symptoms of inguinal hernia.

There are three kinds of tumors from which femoral hernia is to be diagnosed,—viz., psoas abscess, enlargement of the inguinal glands, and varicose enlargement of the saphenous veins where they enter into the femoral veins. What are the main points of distinction? (1) Psoas abscess must follow the course of the psoas muscle. It usually begins from disease of the condyles of the lumbar vertebrae. (2) Psoas abscess comes out of the ring external to the blood-vessels; femoral hernia is internal to them. (3) Where there is psoas abscess there is a history of previous bad health and a general strumous condition of the system.

The diagnosis between hernia and swollen inguinal glands is not such an easy matter, particularly as the swollen glands occupy almost exactly the same position as would be held by femoral her-

nia, lying as they do over the saphenous opening and near the course of Poupart's ligament. The diagnosis will therefore depend on the following points. (1) If the patient has had any venereal disease, or suffered from any injury to the feet, there is a tolerable presumption that the inguinal glands are swollen. (2) In health the inguinal glands can be isolated. This is also possible when they are diseased, but this process of separation is very difficult when they are glued together by syphilitic exudation. (3) Place your hand on the tumor and tell the patient to cough. There will be a distinct impulse felt if it is an enterocele, otherwise not. (This point of diagnosis is of no value as a mode of distinction between an omental hernia and inflamed glands.) (4) Intestines will give resonance upon percussion, glands dulness. (5) You find upon close examination that the tumor was not always *in situ*; that there has been occasional swelling for years; that the tumor was in the habit of appearing and disappearing. As inflamed glands do not change their place, the above facts would argue against their existence. (6) Hernia is usually entirely insensitive to pressure. Inflamed and swollen glands are apt to be highly sensitive.

As regards the modes of distinguishing an enlarged saphenous vein from a hernia, they are few and simple. (1) Cough will impart no impulse to an enlarged vein. (2) Press on the vein just below the site of the tumor; if pressure diminishes the size of the swelling, while upon the removal of the pressure it again fills, the tumor is evidently a venous enlargement; otherwise not.

There is but slight difficulty of diagnosis in cases of *umbilical* hernia. There is rarely any projection except that of hernia in the umbilical neighborhood. This brings us to a consideration of the treatment of hernia.

All forms of acquired (adult and infantile) hernia are curable, provided the hernia be restored and held in position until the hernial passages undergo constriction. Let us take, for example, a case of umbilical hernia in a child. A little tumor makes its appearance at the child's navel, which can be easily pressed back into the abdominal cavity. If the child strains or frets, the projection grows in size. All the treatment necessary in such a case is

the accurate application of a truss. You cannot put a truss on too early in such cases. In umbilical hernia the fitting on of a truss is a very simple matter. Take a good-sized cork and cut it into an oval shape, flattening it on one side. Then cut out a strip of sticking-plaster long enough to pass entirely round the body. Apply now the oval side of the cork over the site of the hernia, first placing a small piece of chamois between the cork and the skin, and then fasten the cork in position by means of the plaster. Porous plaster is perhaps better than adhesive plaster for this purpose, as it does not irritate the skin so much and will stick much longer. I strongly advise the use of home-made cork trusses in children, as they will keep in position much better and longer than trusses bought at the shops.

Where hernia occurs in the adult we have the various styles of artificial trusses from which to choose. These trusses are conical-shaped pads made of leather, hard wood, or ivory, and provided with elastic bands fastening round the body. You will find a great variety of trusses in the market. Some physicians prefer the leather-covered pad on account of the greater comfort allowed by it to the skin; some use the old French truss. In applying a truss for the cure of hernia there are certain indications which must be carried out to the letter if you expect success in your treatment. The application of a truss, therefore, calls for the possession of a certain amount of skill. The indications are, (1) the truss ought not to be worn unless it conforms exactly to the person of the wearer; (2) the truss must be so applied as to exert no more pressure than is demanded to keep the hernia in place. I constantly see the effects of the severe and protracted pressure exerted by ill-applied trusses. It is not perhaps so much the amount of pressure employed as where it is employed. As regards this matter of pressure, the old truss made of hard, polished wood is much more comfortable to the skin than the softer pads. The leather pad in time becomes saturated with perspiration, and so is extremely unwearable. As a general rule, the harder the pad the more comfortable is it to the skin. Pads are either single or double. As a truss, if applied only on one side, is very liable to slide out of position, it is sometimes necessary to use a double truss. I use the

Gemrig truss with two pads very often. This truss is double, having two pads both in front and behind. As this truss is intended for one-sided hernia, one of the front pads presses harder than the other. This is a very popular truss. It scarcely ever changes its place.

In the case of femoral hernia it is very well to employ a movable pad which can be made to drop into the saphenous opening. This movable truss can be changed into a fixed truss for inguinal hernias. Here is a double soft leather truss. This hard rubber truss is very useful. By heating it you can easily model it to fit the outlines of any figure. There are various forms of the hard rubber truss. This specimen does not weigh more than two ounces altogether. It is very inexpensive, and never wears out. If the strap is made waterproof it can be worn in the bath.

Here is another form of truss constructed for the purpose of controlling hernias which are exceedingly hard to keep in place. It has a projecting centre-piece which is supposed to press right into the external abdominal ring, or saphenous opening, whichever the case may be. I do not place much confidence in this form of apparatus. It is but too certain to enlarge the hernial passage at the same time that it is holding the hernia in position.

When you advise any of your patients to use a truss you should always make it a rule to superintend its first application. If you cannot be present yourself, give your patient the following *directions*. (1) Never accept a truss until you get one which fits. (2) Try it by putting it on, and (a) stooping down and rising up suddenly; (b) by coughing violently and persistently; (c) by separating the limbs and stooping; (d) by crossing the limbs and sitting down; (e) by going through all kinds of motions. Of course the truss is not a proper one if the hernia slips away from it in the course of any of these motions.

In wearing a truss the following *precautions* must always be had. (1) The patient must never take off the truss till he or she is in the recumbent position. (2) Before putting it on again the parts must be rubbed until they are all aglow, so that an active circulation and full secretion are maintained. (3) The truss must be taken off the last thing before the patient retires,

and put on the first thing in the morning. (4) In the case of a child the truss should be worn all the time, both night and day, after the first feelings of discomfort have passed away. At first it must of course be taken off two or three times, while the skin is thoroughly rubbed and anointed, and then put on carefully again. If these rules are conscientiously adhered to, a cure may be expected in the course of two or three years. The truss, at any rate, should not be taken off sooner than that. I may say, in closing, that permanent cure is much more likely to ensue if a hard than if a soft pad has been employed.

ORIGINAL COMMUNICATIONS.

CHLORIDE OF AMMONIUM IN THE TREATMENT OF HEPATIC DISEASE.

BY WILLIAM STEWART, M.D.,

Surgeon-Major, British Army.

IN 1869, when stationed with my battalion in Rangoon, British Burmah, I first made known the value of chloride of ammonium in the treatment of hepatic congestion and tropical hepatitis. In a pamphlet published in 1870* I brought the subject prominently to the notice of the profession in India; and in subsequent papers in the *Madras Monthly Journal of Medical Science* and the *Indian Medical Gazette* I gave the result of further clinical observation and experience, and ventured on an explanation of the general and special action of the medicine on the congested or inflamed liver. Since then, the subject has received the attention of a number of careful and skilled observers, and at length the chloride of ammonium, "having obtained a great and well-deserved reputation, in India and other tropical countries, for the treatment of hepatic congestion, has been found to be of great utility in hepatic congestion in this country as well as in India."[†]

With the exception of Dr. H. C. Wood, who, in the second edition of his valuable treatise on Therapeutics, page 502, quotes from my paper in the *Indian Medical Ga-*

zette of August 1, 1872, I am not aware that the subject has received the attention of American writers on medicine or therapeutics; and I am informed by that distinguished author that my various papers are "inaccessible absolutely to the general profession in America." Under these circumstances, I desire in the present paper to give a short account of the remarkable train of effects following the ingestion of the medicine in cases of hepatic congestion, and which, being manifested in any given obscure case, may be looked upon as *diagnostic* of hepatic disease.

I purpose also giving a résumé of the treatment of congestion of the liver and suppurative hepatitis as met with in India and other tropical climates, with a few cases in illustration, in which the characteristic and special symptoms produced by the drug have been recorded.

In active congestion of the liver the special and characteristic action of the medicine will be found to be more marked than in cases of chronic hepatitis, for reasons which will be apparent from a consideration of its *modus operandi*.[‡] The dose necessary for its full therapeutic effect is gr. xx, and the only condition which contra-indicates its use is the existence of a dry and hot skin, in cases of hepatitis. Under such circumstances its use should not be commenced till the skin is rendered moist and perspirable by the administration of some simple diaphoretic mixture in repeated small doses, say $\text{ʒii liq. amm. acet.}$ with ʒv tinct. hyoscyami in each dose, every half-hour. In congestion of the liver (or acute hepatitis when the skin has been made moist or perspirable by the above means) the chloride should be at once commenced in twenty-grain doses twice or thrice daily, noting carefully its effects, which are striking and remarkably regular in the order of their occurrence.

As a general rule, about fifteen minutes after taking the medicine, the patient experiences a sensation of warmth in the epigastrium, which by and by extends, pervading the abdomen, and gradually becomes diffused over the entire cutaneous surface. The nervous system is at the same time exhilarated sympathetically and also through the circulation, for the patient now feels "light-headed" (as he generally

* Chloride of Ammonium: a Specific Therapeutic Agent in the Treatment of Hepatitis and Abscess of the Liver. Rangoon, 1870.

† Murchison, Clinical Lectures on Diseases of the Liver, second edition, London, 1877, pp. 136, 624.

‡ For an explanation of its therapeutic action, see my paper in *Madras Monthly Journal of Medical Science* for February and March, 1872.

expresses it), and at times drowsy. The acute pain previously experienced in the right hypochondrium and along the margins of the lower right ribs, extending, as the case may be, forward across the epigastrium or backward to the lumbar region, is either entirely removed, or in its stead pain is sometimes referred to a point higher up and towards the base of the axillary region, where before none was complained of. At this stage of the operation of the remedy the patient often falls asleep relieved of all his distressing symptoms.

After the lapse of another quarter of an hour, a free and equable perspiration takes place over the entire surface, which lasts for a period varying from one to two hours. In the mean time, the pain, which had shifted from the lower margins of the inferior ribs of right side, will again manifest itself at or near its original position, or may be referred to one totally different, as the lumbar region, or even the right hip. With the next dose, similar effects will be observed to take place with like regularity and certainty, and with each succeeding one the interval of relief from pyrexia (in hepatitis and pain referred to the part affected, as well as sympathetic pains of shoulder, arm, etc., which latter are at times distressing) will gradually become longer, till at length, in favorable cases, the relief becomes complete and constant. After several doses of the medicine, the urine is much increased in quantity (particularly in the cold season), is limpid, and passed without uneasiness. The increase is chiefly at night, causing the patient to awake suddenly, perhaps three or four times, for the purpose of micturition.

After a few days the appetite is much improved, and the patient craves for more food, which may be given, provided it be light, nutritive, and easily digested; but solid food should on no account be permitted, as its ingestion would, in all probability, provoke a recurrence of all the acute symptoms. The above are the more obvious symptoms experienced by the patient after the exhibition of the medicine; some of which, as the diaphoresis, diuresis, etc., being objective, are easily ascertained by the physician.

But there are other symptoms produced by the drug in hepatic disease which are peculiarly and directly referable to the liver and related parts, and lest these should be

wrongly interpreted by the physician—as I have known them to be by the patient himself—as evidences of the medicine disagreeing so as to contra-indicate its use, a short account of them becomes necessary.

The symptoms now to be described occur shortly after taking the chloride (in five minutes to half an hour), and are referable either to the liver or related parts. They are variously described by different patients,—a circumstance not remarkable when we consider how different may be the description of material, form, or color, by different individuals concerning one and the same object.

Sometimes a “shock” is felt, or as if “something gave way” in the side; at other times a succession of shocks is experienced in the hepatic region, accompanied or not by a “pricking sensation” (“pins and needles”); or the action is described as that of “a pulling” from one hypochondrium to the other, or from the margin of the right costal arch upwards and backwards, as if through the liver; or “a clawing,” “working,” or “gnawing sensation” is spoken of as felt by the patient. When a single sharp shock is experienced in a debilitated, nervous, and susceptible subject, it is generally severe, and I have known the patient to cry out in consequence, frightening the other patients in the ward, and being himself alarmed. Immediately afterwards the severe hepatic pain vanished, and never returned with its original severity; and with each succeeding dose a sensation of “pulling” only was felt in the hepatic region, till at length all sensible action ceased with the removal of the hepatic congestion, the case being one of simple enlargement of the liver.

With the local actions excited in the liver and related parts (through reflex nervous action), when a full dose of the medicine has been taken, motor impulses are similarly communicated to the muscles of the intestinal canal, causing its peristaltic action to become more rapid and energetic, as evidenced by the twisting and other movements experienced in the situation of the duodenum, or all over the abdomen, and which, at times, are more sensibly felt in particular parts, in the situation of the umbilicus or in the inguinal region. Simultaneously with, or closely following, the above phenomena, the abdominal muscles may be thrown into tonic contractions, which are perceptible at times to both sight

and touch, and pulsatile movements are felt, and are sometimes visible, along the margins of the right inferior ribs. I have, in the paper above referred to, shown that all these phenomena are highly purposive, contributing, with other vital actions and processes brought about by the action of the medicine, to diminish portal congestion, restore the diseased liver to a healthy state, and afford relief to the entire system.

It need not occasion surprise if, in the treatment of a case, say of hepatitis, accompanied by great anxiety, pain, and tenderness in the hepatic region, and general pyrexia, the patient should fail to inform the medical attendant of the *special symptoms produced by the medicine*, unless specially requested so to do. In instances in which, as it turned out afterwards, the special symptoms were most striking and singular, the patients failed to give a spontaneous account of them. In these instances they appear to be wholly absorbed in their sufferings, and although aware of what takes place after the exhibition of the medicine, they are incapable of distinguishing between the effects of the latter and some new phase of the disease, with which they doubtless sometimes confound them. But tell such a patient to observe the effects of the medicine from the moment he swallows the dose till the cessation of all sensible action, so that you may interrogate him at the next visit as to the symptoms experienced, and the regularity and certainty of its action, as well as the varied and characteristic symptoms induced, and the relief afforded, will be sufficiently manifested.

RECAPITULATION OF THE TREATMENT OF PRIMARY ACUTE HEPATITIS.

In the early stage, should there be no accompanying diarrhoea, a mild purgative may be administered at the commencement; afterwards some simple diaphoretic mixture, in frequently repeated small doses, should be administered till the skin becomes moist and perspirable. Fomentations or bran poultices applied to the seat of pain in the right hypochondrium will afford much relief, and should be continued as long as they give relief, and repeated from time to time on the recurrence of pain. In some instances the application of six or eight leeches to the chief seat of pain, when this is severe and attended with much tenderness, and the patient is not

reduced, may be necessitated; but in general even this amount of local depletion is not required.

The diet should at this time consist of arrow-root, sago, milk and water; barley water may be taken freely (to assist the operation of the diaphoretic), and afterwards beef tea may be allowed.

As soon as the symptoms, local and general, shall have abated, and diaphoresis been freely established by the above means, the chloride of ammonium should be commenced in doses of gr. xx twice or thrice daily, and persistently administered till its characteristic and special action be no longer manifested. On the cessation of its sensible action, should liver enlargement, with feeling of stiffness, weight, or other uneasiness, continue, it may be administered in small doses (gr. v to x) thrice daily for some time afterwards, with beneficial results.

During the whole of this time the patient should be kept in bed, for it must be borne in mind that the condition of an inflamed liver is not unlike that of an inflamed joint, demanding strict quiescence in the recumbent posture; and therefore a steady and intelligent attendant should constantly wait on the patient in all acute and severe cases, and the bed-pan and urinal should at all times be at hand, so that the patient may not have the least occasion to quit his bed. It must be borne in mind, as pointed out by Morehead, that the *complete restoration* of the inflamed portion or portions of the liver is not coincident with the cessation of febrile symptoms and local sense of pain and symptoms referable to the affected part; in fact, recovery must be considered incomplete till several days have elapsed from the cessation of the pain and febrile disturbance, during which time the patient should still be confined to his bed, and carefully watched, so as to guard against relapse. By these means, in the majority of cases, a speedy and effectual cure by resolution will be effected.

Abscess of the liver.—In military practice it frequently happens that hepatitis does not come under treatment till the peculiar symptoms pointing to abscess, either impending or already formed, are manifested, or it may occasionally happen that, in consequence of bad diathesis, advanced stage, or other cause, recovery by resolution does not take place under treatment,

suppuration occurs, and hepatic abscess is formed. It is necessary to detect this event promptly, because it calls for a line of treatment different from that of the antecedent stage. The diet should now consist of light puddings, broths, or animal jellies, and wine may be cautiously administered if it does not excite the pulse or produce irritation of the gastro-intestinal surfaces; but *no solid food should be allowed*.

If the hectic fever arising in this stage of the disease be attended with colliquative sweating, the chloride of ammonium should be commenced at once in doses of gr. xx twice or thrice daily, and persistently administered till it no longer produces sensible action and all symptoms of hectic have disappeared, and during convalescence, and when hepatic pain and uneasiness have completely subsided, it may be given in smaller doses for some time longer. Should the irritative or hectic fever be attended with a hot and dry state of the skin, the preliminary treatment recommended in the early stage of acute hepatitis should be had recourse to. A moist state of the skin having been induced, no time should be lost in commencing the administration of the salt, as before directed.

In simple acute hepatitis, rest in bed and strict quiescence in the recumbent posture is absolutely necessary for the perfect and speedy recovery of the patient; but when abscess of the liver has resulted, the patient who is permitted to leave his bed, or even move about in bed, is exposed to a greater danger than the mere recrudescence of inflammatory action which inevitably results from inattention to this important rule: he runs the risk of rupturing the wall of the abscess (which may be making its way by one of the usual channels) before adhesion has taken place between the opposite surfaces of the peritoneum, an occurrence which would inevitably lead to a fatal result.

Congestion of the liver.—In congestion of the liver (simple enlargement) the chloride may be given in doses of gr. xx twice or thrice daily, according to circumstances, with careful attention to diet, and rest in the recumbent position, in acute cases; and it is to be carefully noted that in whatever form of hepatic disease the medicine is administered, if the skin be hot and dry, it should be preceded by some simple diaphoretic till the skin becomes moist and

perspirable; or, if the skin be very hot, with a temperature of 103° to 104° , a sixteenth of a grain of ant. tart. may be given every three or four hours with the same intention.

Chronic hepatitis.—Cases of chronic hepatitis, with enlargement of liver, from long residence in India, and repeated attacks of acute hepatitis, are benefited and the liver enlargement reduced by the persistent administration of the salt in doses of gr. x to xx twice or thrice daily, according to the general principles already laid down, varied, of course, according to circumstances in individual cases.

"Torpor of liver" and functional derangements, attended by lithæmia (Murchison), associated with congestion of the liver, want of sleep, and depression of spirits, are benefited in a remarkable manner by a course of the medicine with careful attention to diet and regimen. In such cases I have known a few twenty-grain doses of the salt remove the symptoms of disordered liver, restore sleep, and revive the drooping spirits after the complete failure of other remedies.

Case of Congestion of the Liver illustrating some of the Special Symptoms produced by the Chloride of Ammonium in Hyperæmia of the Liver.—Pt. W. S., a stout, well-made man, of plethoric habit, was admitted to the hospital on the 12th of September, 1871, with febricula, —the result of drinking to excess for some days previously. He complained of a severe frontal headache, and his face was flushed.

Diaphoretic mixture was prescribed, and on the 16th he was free from fever, but still complained of headache. He did not complain of hepatic symptoms, as soldiers seldom do until seriously ill (or unless specially questioned on the subject); but, according to custom, I made an examination of the hepatic region, and interrogated him as to the symptoms of hepatic derangement, which I suspected. He stated that for the past eight or nine months he had suffered from a dull, heavy pain in the right side, —hypochondrium, —aggravated by lying on the right side; could not lie on the left side, owing to a sensation of weight and dragging when in that position; latterly, headache, loss of appetite, bitter taste in the mouth, and despondency accompanied the above symptoms, and the pain of side was aggravated by wearing his belts.

There was fulness of the right side in the hepatic region, and some tenderness on pressure beneath the margins of the false ribs. Right lobe enlarged upwards; swelling and tenderness in epigastrium, where there was increased area of hepatic dulness. There being no fever, and the skin acting properly,

he was ordered twenty grains of chloride of ammonium thrice daily, and to note its effects from the moment of swallowing the dose, so as to inform me of the same at the next visit. Beef-tea diet.

Sept. 17.—States that about ten or twelve minutes after taking the first dose of the medicine, a sensation of pricking ("pins and needles") and "pulling" was experienced beneath the tenth rib of right side (the point as shown by the patient was a little to the inner side of a line let fall from the right nipple); the pulling was towards spine. At the same time he experienced the sensation of rapid shocks proceeding from the point where the pulling was felt to a point as high as the seventh rib. Patient believed these shocks passed through the liver.

The medicine also produced general heat of surface and perspiration in the usual manner. Patient now felt much lighter and easier; the headache was removed, and he was able to turn on his left side without uneasiness or sense of dragging. After the second dose he felt a "pricking and tingling" in the part where the "pulling" was felt after the first dose; from this it extended all over the left side of the abdomen, but was more acute on the right side; it lasted a few seconds, when a perspiration broke out all over him, and he says he never sweated so much in his life before,—he perspired from "head to foot," and after the perspiration he felt light and refreshed, and a gentle heat remained in the right hypochondrium and in the right side of abdomen for the rest of the evening. The urine was not diminished. He was now entirely free from uneasiness and tenderness in the hepatic region, and the swelling in the epigastrium had subsided. Chloride of ammonium, fifteen grains thrice daily.

18th.—No enlargement of liver; no pain or tenderness; is able to lie on either side for any length of time without uneasiness; appetite much improved; headache gone. Discharged from hospital fit for duty, but to take the medicine in five-grain doses a few days longer.

Case of Congestion of the Liver, illustrating some of the more unusual Special Symptoms produced by the Chloride of Ammonium in Hepatic Disease.—Lance-Corporal J. R., a stout, plethoric man, of fairly temperate habits, was admitted to the hospital on the 23d of September, 1871, complaining of fulness and sense of distention in the epigastrium, and pain and uneasiness about half an hour after taking food. During his service in various parts of India and Burmah has had nine admissions to hospital with dysentery, three hepatitis, three hemorrhoids, and several with dyspepsia. For three months or so previous to admission suffered from dyspepsia, morning sickness, and vomiting, and used frequently to vomit his food after taking meals; complained also of sensation of "smothering"

when lying on his left side,—the easiest position being on the back. Skin cool; pulse quiet.

On examination, considerable fulness is perceptible in the epigastric region, where there is also tenderness on pressure and increased area of hepatic dulness. Was ordered twenty grains of chloride of ammonium twice daily. Beef-tea diet; one pint of milk and one pint of corn flour.

Sept. 24.—States that from two to three minutes after the dose of the medicine yesterday evening a sensation of "two cold narrow streaks" started off right and left from the tip of the ensiform cartilage, and coursed along the margins of the false ribs on either side, until they reached a point about an inch outside of lines let fall from the nipples. Thence the cold streaks extended down the thighs in the central line as far as the centre of each patella. The sensation of cold moved along about as quickly as a painter would draw his brush in graining, and when the knees were reached the legs beyond became hot, and broke out in perspiration, which thence extended all over the body; the perspiration was profuse, and lasted about an hour. After this the sensation of weight and suffocation, which formerly prevented his lying on his left side, was greatly relieved. Continue treatment and diet.

25th.—Yesterday, two minutes after taking the morning dose, "a cold streak" (this time single and of greater breadth) spread over the left side of the abdomen as far down as the pubis, and afterwards all over the abdomen. The perspiration which followed was not so great as before. Could now lie on left side with ease, but was cautioned against doing so. Continue medicine and diet.

26th.—The medicine yesterday was only followed by a sensation of cold, this time stopping just half-way between the umbilicus and pubis.

27th.—Medicine has now no sensible effect; enlargement in epigastric region gone. Amm. chl. gr. viii thrice daily.

29th.—Discharged well.

Case of Simple Enlargement of the Liver (Congestion) treated and (in the first instance) diagnosed by the exhibition of Chloride of Ammonium.—The case furnishes an illustration of what may be called *medicine-diagnosis*. The patient sought admission to hospital with frontal headache and feverishness, attributable to exposure to the sun, for which the salt was prescribed; and its special and characteristic action on the liver being manifested led to the detection of the hepatic affection.

Gr. A. W. O., 7-5 Royal Artillery, thirteen years' service in India, was admitted to hospital on the 10th of June, 1872, complaining of pain in his head, accompanied by giddiness, and at times dimness of sight; complained also of loss of appetite and sleepless-

ness at night. A few days before admission had been exposed to the sun on duty, to which circumstance he attributed his illness. Bowels regular; slight feverishness; skin hot and dry; tongue clean. To have diaphoretic mixture $\frac{3i}{4}$ every third hour.

June 11.—Still complains of frontal headache, pain shooting through temples; skin warm and moist; secretions regular. To have chloride of ammonium gr. xx twice daily. In persistent headache, after other means fail, I find a few doses of chloride of ammonium sometimes effectually remove it.

12th.—States that about half an hour after taking the first dose of the medicine he felt a peculiar creeping sensation at the pit of the stomach, and about twenty minutes afterwards a "rushing" sensation to the right side, in the region of the liver, took place, which then darted to the head; afterwards the pain left the head, and has not since returned. Soon after a profuse perspiration broke out over the entire surface. On examination I found the liver enlarged in all directions; hepatic dullness extending upwards in the right mammary line beyond its normal limits, and downwards in the same direction for an inch and a half beneath the right costal arch. On directing the patient to lie on his left side he was sensible of a "weight" or "dragging" sensation in the right hypochondrium, although he had not noticed this symptom before. Felt no inconvenience on his back or on lying on the right side. Pulse 68; temperature normal; respiration 20. Continue the chloride of ammonium.

13th.—No return of the headache. Feels less "dragging" in the right side when he turns on his left; bowels regular; tongue clean; slight pyrexia. Pulse 76; temperature 100.5°; respiration 24. Continue medicine.

14th.—Liver enlargement much reduced; the anterior margin extends only half an inch beneath right costal arch. Feels no weight or dragging on lying on left side; can lie in any position with ease. Passed a large quantity of urine yesterday. Medicine now only produces a sensation of warmth in the epigastrium, followed by slight perspiration. Amm. chl. gr. x twice daily. He remained in hospital, taking the medicine in small doses in bitter infusion, till the 18th, when he was discharged quite well.

The following case of acute hepatitis, which was kindly forwarded to me by Staff-Assistant-Surgeon J. A. Clery, M.B., I give *verbatim*, as it well illustrates the efficacy of the ammonium chloride in cases of tropical hepatitis.

"Pt. Stevens, æt. 27, was admitted into hospital on the 30th of May, 1872, suffering from acute hepatitis. During his protracted service in India, of eight years' duration, he

had enjoyed good health, until on arrival in Secunderabad, in January last, he was seized with pains in the hepatic region, which subsided in a few days, but returned with renewed intensity on the night of the 28th of May.

"The following notes of his case were taken on June 1. Patient's face is flushed and expressive of great suffering; his brow contracted; breathing short, and apparently attended by much distress. The skin has a mottled appearance, and on the application of the hand communicates a burning sensation. Temperature 103°; the pulse beats 100, full and throbbing; the heart's action is excited, but unattended by any deviations from the normal sounds. Dyspnoea and a short dry cough prevail, for which we can find no adequate physical signs, as there is normal resonance all over the chest, except towards the base of the right lung anteriorly, and the respiratory murmur, although louder than natural, is otherwise unaffected. Tongue is furred; appetite deficient; thirst urgent and distressing. He complains of acute pain over the liver, extending along the borders of the false ribs and all up the side to the shoulder; this pain is aggravated by lying on the right side; most relief is felt when on the back inclined to the left side. All over the painful part there is exquisite tenderness. Greater part of the abdomen is tympanitic; but we find increase of dullness in the right hypochondriac region, extending downwards to a level with the umbilicus and upwards to the fifth rib. His temper is irritable; depression of spirits prevails, with restlessness and want of sleep.

"I prescribed a podophyllin pill and diaphoretic mixture ($\frac{3i}{4}$ every two hours until diaphoresis set in); locally six leeches were applied, followed by fomentations over the hepatic region.

"June 2.—The dry heat of skin has been replaced by free diaphoresis, attended by some slight alleviation of his sufferings. Temperature 101.4°; pulse 105. I prescribed gr. xx amm. chl., morning and evening,—the fomentations and diaphoretic mixture to be continued during the day.

"3d.—Stevens enjoyed a good night's rest, and appears quite cheerful to-day. The following is his description of the effects following the administration of the drug: 'The medicine had a saltish taste, which produced an inclination to vomit; this was followed by heat in the side, which extended all over the body, until I was covered with perspiration. In about an hour's time I subsided into a refreshing sleep, and on awaking felt that the pain had vanished.' The temperature in the evening had fallen to 99.8°, and the pulse to 98.

"4th.—Pain has returned, but in a mitigated form. Temperature 99.8°; pulse 100.

"5th.—Improving; continue chloride. Temperature 99°; pulse 100.

"6th.—Pain and tenderness over the hepatic region have greatly abated; the dullness has descended from the fifth to the sixth rib, neither does it extend farther than one inch below the false ribs. Pulse 95; temperature 99.8°.

"7th.—Much relieved; slept well. As patient looks ill and anæmic, I allowed him six ounces of wine. Temperature 98.8°; pulse 80.

"8th.—Patient is altogether free from pain, except when he attempts to lie on the right side; the liver is apparently reduced to its normal dimensions. Reduced the chloride to five grains *bis in die*.

"10th.—Patient may now be said to be convalescent, as he is quite free from pain, except in violent exertion; can lie on either side with perfect ease, but on taking a full inspiration he feels a slight catch in his side. Temperature 98.8°; pulse 78.

"15th.—Since last report patient has been progressing favorably; his appetite is good and strength returning.

"20th.—Discharged convalescent."

BRECON, SOUTH WALES, March 11, 1877.

PERFORATING ULCER OF DUODENUM—DEATH; AUTOPSY.

BY JOS. BERENS, M.D.

J. W., male, æt. 54, had been more or less of an invalid for eight or ten years,—his sufferings being referable mainly to the stomach and bowels. He had an almost constant feeling of uneasiness and distress at the epigastrium, which was aggravated by the ingestion of anything, whether fluid or solid. Eating was not infrequently followed by vomiting, which always afforded relief. The bowels had been habitually confined. Recently, under the pressure of business complications, his health grew much worse. The dyspeptic symptoms became more prominent, the pain at the epigastrium more severe, the vomiting more frequent; no blood ever appeared in the vomited matter.

At 7 P.M., March 20, he was suddenly taken with what he described as violent cramps in the stomach. He fell to the floor and rolled about in agony. When seen half an hour later, he was lying on his back in bed, with pale, anxious countenance; skin cool and covered with moisture; knees drawn up; pulse 110, full and soft; respiration rapid and shallow, and interrupted at frequent intervals by a short groan, accompanied by a straining effort, as in difficult defecation. The abdominal muscles were set and rigid, but there was little tympany. The tongue was covered slightly by a white fur. He referred the pain to the upper portion of the abdomen, and at the same time complained of a constant urging to stool. Shortly after the beginning of the attack he vomited the supper he

had just eaten. A half-grain of morphia was given hypodermically, and ten grains of Dover's powder by the mouth. A mustard plaster was ordered on the abdomen. At 8.45 he vomited about a pint of very dark fluid unmixd with food. At this time he said the pain was less and had shifted to the right iliac region. His tongue was thickly covered with a dirty brown fur, the abdomen tympanitic, the pulse very feeble, intermittent and rapid. By the advice of Dr. H. C. Wood, who had been called in consultation, twenty drops of tincture of digitalis were administered hypodermically. Every twenty minutes a quarter of a grain more of morphia was also given. The patient continued to grow progressively weaker, and at about 1 A.M. died, after an hour's quiet and comparative freedom from pain.

At the post-mortem the intestines were found much injected, and the peritoneum covered, here and there, by a thin deposit of lymph. The pelvic cavity contained a quantity of greenish fluid, with a very slight admixture of what appeared to be fecal matter. In the duodenum, a quarter of an inch from the entrance of the common duct, an oblong perforation was found, a third of an inch long by an eighth wide; this communicated with a chamber which opened into the duodenum by a large circular orifice nearly half an inch in diameter and surrounded by indurated and infiltrated connective tissue. The openings had a clean punched-out appearance, with smooth, rounded edges, as though the perforations had long been nearly complete and finally became so by the rupture of a thin remaining septum.

TRANSLATIONS.

DIAGNOSIS AND CURE OF POST-PARTUM HEMORRHAGE FROM EXTENSIVE RUPTURE OF THE CERVIX UTERI.—It is only recently that rupture of the cervix has been well understood as a cause of profuse hemorrhage in the third stage of labor, although the characteristic symptoms have been made known long since by numerous observations. Known narrowness of the cervix, particularly in cases of oblique and foot presentations with early escape of the liquor amnii, great development of the head, sudden descent in wide pelvis, escape of fluid blood immediately after the birth of the child, persistent return of this bleeding even where the uterus has contracted well,—all these indicate rupture of the cervix, even where the point of rupture cannot be felt with certainty. Dr. H. Fritsch, writing as above in the *Deutsch.*

Zeitschr. f. pract. Med., says he has always been able to control bleeding under these circumstances by applying a twenty per cent. liq. ferri persulph. solution directly to the wound. Twelve hours later a two per cent. carbolic acid solution should be used, and again after twelve hours the cleansing out of clots by the hand begun. Occasionally hot (112° F.) water may be used, or bimanual compression. Sometimes, however, all fail, and the patient succumbs to anæmia.—*Cbl. f. Med.*, 1878, p. 32. x.

CASE OF ACUTE HEMORRHAGIC INFARCTION AND SPONTANEOUS GANGRENE OF THE TESTICLE. — Volkmann (*Berliner Klin. Wochens.*, 1877, No. 53) reports a case of this rare affection in a boy of fifteen, who was suddenly attacked in the middle of the night with pain in the abdomen, diarrhœa, and vomiting. The next morning the left side of the scrotum was swollen, and the pain was confined to this part. There was some fever. Three days later, when seen by Volkmann, the patient looked almost collapsed, his face giving the impression of a person suffering from peritonitis. On examination no pain in abdomen, skin hot, pulse 100. The scrotum, swollen with hard inflammatory œdema, was nearly twice the size of one's fist, and, particularly on the left side, of a dark, inflammatory red color. It was very tender to the touch. When the patient was chloroformed, the left side of the scrotum was found to be hard as a board, excepting at a small point in the centre, where there was fluctuation, while the right was softer, and on deep pressure the right testicle, of normal size, could be felt.

The diagnosis of acute, spontaneous, purulent inflammation of the tunica vaginalis of the left testicle was made,—a rare affection, of which only a few cases are recorded. It was decided to lay open the supposed purulent deposit, and a longitudinal incision was made with antiseptic precautions. No fluid exuded, either spontaneously or upon pressure. The gaping wound showed the lax scrotal connective tissue changed by lymphatic œdema into a firm, transparent, myxoma-like structure. Nothing indicated a previous injury. On pushing the incision deeper, the tunica vaginalis propria testis showed of a deep bluish black, and on cutting through this about a teaspoonful of dark fluid blood escaped, and the testicle, swollen to four

or five times its natural size, of a uniform dusky red, and showing a smooth, shining surface, could be perceived. It was quite separable from the surrounding parts, which showed numerous veins filled with thrombi. No sign of gangrene.

The treatment was expectant, the wound being closed with carbolized cotton changed every few days. No suppuration took place, but a circumscribed dry gangrene of the testicle and neighboring parts resulted, and these latter in mass were gradually expelled from the surrounding tissues, separated from them by a line of healthy inflammation, and finally sloughed off, leaving the other testicle intact. The patient made a good recovery. x.

HYDROCELE CURED BY ELECTRO-PUNCTURE.—Macario (*Cbl. f. Chir.*, No. 3, 1878; from *Gaz. Med. Ital. Lomb.*) treated two cases of hydrocele of the tunica vaginalis by electro-puncture, the duration of the sitting being one minute. One was quite cured. In the other case the hydrocele returned again after the lapse of ten months. In both the hydrocele had entirely disappeared within the first twenty-four hours, without the least escape of fluid through the puncture. Macario suggests the use of electro-puncture for other cysts, particularly ovarian cysts, and cites the three cases reported by Semeleder in the *Wien. Med. Presse* which were cured by this method. x.

POLYPUS OF THE INTESTINE AS A CAUSE OF INVAGINATION.—Barthel (*St. Petersb. Med. Wochens.*; *Cbl. f. Chir.*, 1878, p. 79) found, on post-mortem examination, an invagination of six inches some eighteen inches above the valvula Bauhini. Above, the intestine was much enlarged by fæces and gas. Just at the upper end of the invaginated intestine lay, like a valve, a submucous fibromyoma the size of a pigeon's egg. B. explains the occurrence of the invagination as follows. 1. The polypus gave rise to repeated stasis of fæces in that portion of intestine directly above it, accompanied by distention of the intestinal walls. 2. On account of this distention, the ganglion cells in the intestinal walls finally became unable to act. 3. But these ganglia govern that portion of the intestine lying next below the polypus, so that paralysis occurred. 4. This paralytic portion of intestine subsequently became invaginated up to the point where the polypus itself forbade further progress. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, APRIL 13, 1878.

EDITORIAL.

THE NEW HOSPITAL FOR THE INSANE.

MOST of our readers are aware, no doubt, that the project of a new hospital for the insane in this neighborhood has come to a lame and impotent conclusion. We had hoped to be able by this time to point to an establishment embodying the best architectural arrangements, built at a reasonable cost, and in every way creditable to the commonwealth. To understand how this hope has been frustrated, we have only to look back on the several stages of the enterprise, where we shall find a succession of mistakes any one of which was calculated to jeopardize its success.

Mistake 1st.—In the act by which the hospital was created, in the session of 1876, an appropriation was made of only \$25,000. Of course, with so small a sum nothing could be done, and thus one year was lost,—one more year of misery added to the lot of many an inmate of the poor-houses of this district. This was mistake the first.

Mistake 2d.—At last an appropriation of \$600,000 was made for obtaining a site and erecting the buildings completed and ready for occupation, the cost not to exceed \$800 per patient, thus providing for over 700 patients. This is an unprecedented cheapness, and could be accomplished, if at all, only by means of the most honest, careful, and skilful management. This, of course, would depend on the kind of men to whom the business of carrying into effect the act of the Legislature was to be intrusted. For this purpose the Governor appointed ten persons, two of whom were medical men, and all of good repute, we

believe, in their respective callings. It does not appear that any one of these gentlemen, excepting Dr. Morton, of this city, had any special qualification for the duty. Indeed, it is doubtful if any of them had ever been inside of a hospital for the insane, except as casual visitors, or had ever manifested any special aptitude for business. To such persons was intrusted the duty of finding and buying a site, of accepting plans, preparing specifications, and making contracts. Their incompetence was rendered all the more disastrous by their large number, which was greatly in the way of speedy and efficient co-operation. To assemble them all together at every stage of the proceeding, desirable as it was, was not always possible without delay, residing, as they do, in different counties, and often absent from home. A Commission, consisting of three persons with a reputation for honesty and business-like ability which would insure the respect and confidence of the community, knowing something of hospitals, or, if not, ready to learn of those who do, would have had the work well under way in six months' time or less, and that, too, in strict conformity to the law, and with justice to all concerned. Thus was made mistake the second.

Mistake 3d.—The Commission, having chosen a site,—which, to their credit be it said, is an admirable one,—advertised for plans, not foreseeing, apparently, that many would be offered indicating as little knowledge of the requirements of a hospital for the insane as they had themselves. True, they were not bound to adopt any one of them, but they were bound to examine them and pass judgment upon their merits, having promised the sum of \$300 to each of the authors of the best five. The next step was to choose an architect and direct him to make up a plan, by some eclectic process, from those which had received the prize. As he was one of the competitors, he naturally selected his own

plan, which, by a marvellous coincidence, happened to be very like that offered by one of his neighbors. So that actually little or nothing was gained by this round-about process, though at the expense of some time and money. Had any of these gentlemen designed to build a house or store, instead of advertising for plans,—which is about the last thing they would have done,—they would have applied directly to some architect of established reputation, expressed their wishes in general terms, and accepted his plans. Had this sensible and customary course been taken by the Commission, the result, we are sure, would have been far more satisfactory. As it turned out, the plan furnished by a gentleman who has made the construction of hospitals a life-long study, and actually been concerned in the building of more than any other man in the country, was treated like the other four, and in the election of architect he obtained but one vote out of the ten, though his successful competitor had scarcely any experience in this class of buildings. Here was mistake the third.

Mistake 4th.—The act of the General Assembly declared that the plans should not be altered without the consent of the State Board of Charities. That is to say, whether the plans were good or bad, this board could not interfere unless an attempt were made to alter them. If it were peculiarly qualified for such a duty, we cannot but wonder that it was not intrusted in the first place with the making of the plans, or at least with the examination of those offered by the architects. This idea of working by a wheel within a wheel seems to have been a favorite one with that Legislature, for it provides that the Commission shall make reports once in six months, of its expenditures, to the State Board of Charities, though it gives the latter no authority over them whatever,—neither to increase, diminish, nor change them. How efficiently this board acted when its interference was

actually called for, we shall soon see. This was mistake the fourth.

Mistake 5th.—When contracts for building were offered, it was found that none of them came within the terms imposed by the act, viz., \$600,000, including the land, which had been purchased for \$59,000. The language of the act was imperative. It was drawn by men who believed that the hospital could be built for the sum mentioned, and were determined that it should cost no more. Under these circumstances the obvious duty of the Commission was to have stopped then and there and reported to the Legislature their inability to comply with the requirements of the act. They decided neither to do this nor to proceed on the best terms they could get, but to build the hospital piecemeal; and so a contract was made whereby the administration building, one of the wards for excited patients, the roofs to the corridors connecting the different sections, some workshops, all the plumbing, and all the machinery for heating and ventilation, were left out. For so much they agreed to pay a little over \$382,000. By what process they arrived at a course which is a palpable infraction both of the law and of the plainest dictates of common sense, is quite inconceivable. And the mystery becomes all the greater by the fact that they had before them *the offer* of Mr. Sloan *to build the hospital in compliance with the terms of the act*, according to his plan, which had received one of the prizes and was unquestionably the best one presented. Had his offer been accepted, his high professional reputation would have given us the assurance of a hospital skilfully arranged, faithfully built, and well worth all the money that it cost. Why the State Board of Charities did not step in at this juncture and exercise their power to stop any movement calculated to frustrate the purpose of the act, remains to be explained by them. It is certainly beyond the power of anybody else to explain. A more fla-

grant betrayal of a trust assumed by that board—even solicited by them, if we are not misinformed—we do not remember. Here was more than one mistake, if that be not too mild a term.

The Commission have put out a statement meant for a reply to the strictures of the public press, though it explains nothing and defends nothing, in which they make light of the piecemeal proceeding they have ordered. They say that the administration building, that in which the officers reside, in which company is received and the business of the institution transacted, can very conveniently be replaced by the old farmhouse on the place; the males and females of the violent class can be kept together in the same section,—as if there were not the slightest impropriety in such an association; the workshops may be dropped out of the plan without the slightest compunction,—as if the idea of employing the patients were only an idle fancy; and the long covered ways may be left uncovered with little or no discomfort to the patients and employés obliged to pass through them every hour in the day and often in the night. This must verify to any doubting mind the statement we made in the beginning, that the most of these gentlemen are supremely ignorant of the purposes and practices of a hospital for the insane.

The specifications present matter for comment far beyond our allotted room. We can only say of them, as somebody once said of an act of Parliament, that they are so loosely and vaguely drawn, you could drive a coach-and-six through the most of them. They provide a medley of things, some cheap and mean, some costly and extravagant. For instance, a door of unprecedented inefficiency and ugliness closes a room that is lighted by a window seven and a half feet high! If cheapness were to be a paramount consideration, we cannot understand why the walls should be faced with smooth pressed brick, while good rough bricks well bedded in good

mortar, with joints nicely struck, and bound with honest headers, would make a wall stronger and not unseemly, and with a saving, we venture to say, of \$20,000; nor can we consider it as other than a useless expense to provide for flooring boards only two inches wide, when boards four or five wide would be preferable in every respect.

The contract for warming and ventilating, it appears, is to be made separately and independently, so that in the specifications for the rest of the work we find no reference whatever to these objects; and yet we have supposed that the humblest builder knows that preparation for them must begin in the very foundations of the building. Of course, all this will be followed by much tearing down and building up, by many awkward devices and an imperfect result.

The architectural arrangements specially bearing on the care of the patients we must now pass by in silence, except one. The Commission, in their circular soliciting plans, required that the different sections, each containing about a hundred patients, should be placed eighty feet apart and connected by corridors one story high. To say nothing of the greater cost of this arrangement, it is open to objections of the most serious character. That it will prove the source of incalculable inconvenience, and of increased expense both of construction and maintenance, of defective surveillance and lax discipline, is obvious enough to any one who has had the least practical acquaintance with the management of a hospital for the insane.

A prime requisite in hospital construction is facility of surveillance. Any plan which fails to provide for this object in the highest possible degree is, to that extent, defective. Now, it is the result of all experience, as might be expected on general principles, that the nearer the employés are brought to the chief, the more perfectly will they be kept under his observation; the farther their field of duty is removed

from his headquarters, the more opportunity will be afforded for neglect of duty and abuse of trust. Can any one suppose that a portion of a hospital a half or a quarter of a mile away will be visited by the chief as often and as carefully as if it were only a few rods off? This facility of observation, very necessary in all hospitals, is peculiarly so in those for the insane; for in others, where the ailments are of a bodily nature, the patients are better able to take care of themselves.

These great distances must necessarily increase the labor of the service, for much of the time of the officers and employés must be consumed in travelling from one building to another. This, of course, must impair the efficiency of the service, for the rule is that the more time and trouble required in its performance, the less satisfactory will be the result. The food, for instance, cannot be distributed from the common kitchen to such long distances, without getting cold and unpalatable, in spite of tight-covered vessels and steam-tables. Again, the superintendent ought to go through every ward every day,—a duty difficult, at best, with the frequent, unavoidable interruptions, but rendered far more so by the greater draft thus made on his time and strength.

The only reason we have heard for this extraordinary departure from the usual style of connecting the different sections of a hospital, is the diminished risk from fire. It is enough to say, in reply to this, that if the hospital were built as every hospital should be, with the sections separated by thick walls and iron doors, the chance of fire spreading from one to another would be rendered so extremely small as to be more than compensated by exemption from the hourly trials and troubles induced by this wide separation, aggravated as they will be by leaving the corridors uncovered.

We would not have it understood that every member of the Commission acqui-

esced in the course it pursued. We need not mention names to assure our readers—most of them, certainly—in believing that from one of the number, at least, it met with intelligent, strenuous, and persistent opposition.

LEADING ARTICLES.

METALLOTHERAPY.

IT is probable that few of the readers of the *Times* are familiar with the history of Dr. Elisha Perkins and the metallic tractors. But among the older members of the profession there are doubtless some who remember to have heard *their* elders recall this delusion, as we of the younger generation sometimes hear our fathers speak of the *Morus multicaulis* mania, or of some other long-forgotten "rage."

Dr. Perkins, a respectable practitioner of Norwich, Conn., during the latter half of the last century, conceived the idea that metallic substances might have the effect of removing diseases, if applied in a certain manner; a notion, says Dr. O. W. Holmes,* probably suggested by the then recent experiments of Galvani, in which muscular contractions were found to be produced by the contact of two metals with the living fibre. It was in 1796 that his discovery was promulgated in the shape of the *Metallic Tractors*, two pieces of metal, one apparently iron and the other brass, about three inches long, blunt at one end and pointed at the other. These instruments were applied for the cure of different complaints, as rheumatism, local pains, inflammations, etc., by drawing them over the affected part very lightly for about twenty minutes.

Dr. Perkins took out a patent for his tractors, and travelled about the country to diffuse the practice, which spread amazingly. Aided by his son, these instruments were introduced, chiefly, it must be admitted, into domestic practice, both in this country and abroad, the inventor realizing a fortune from their sale. In Denmark they were used in the hospitals of Copenhagen, and a large book was published by the physicians there, containing an account of the numerous cases cured by

* Currents and Counter-Currents. Boston, 1861.

the tractors. A very amusing puff of the practice was published under the pretended form of a poetical satire, entitled "Terrible Tractoration," in which, while assuming the part of a critic, the poet in reality lauded the invention and its inventor in every possible manner. We have recently had an opportunity of examining the volume, which contains a colored steel-plate frontispiece representing the medical profession, with wig and cane, advancing, armed with gigantic enema syringes and the like, to quell an ardent devotee of tractoration, who kneels beside a sufferer on whom he applies the metallic tractors, regardless of consequences. "See," says the poet, in the classic metre of Pope,—

"See *pointed metals*, blest with power 't' appease
The ruthless rage of merciless disease,
O'er the frail part a subtle fluid pour,
Drenched with invisible galvanic shower,
Till the arthritic staff and crutch forego,
And leap exulting like the bounding roe!"

In a few years, however, the bubble burst, and by 1811 the tractors are spoken of by an intelligent writer as being almost forgotten.

But science, like history, repeats itself, and one is forcibly reminded of the tractors in reading a report of a clinical lecture recently delivered by Dr. Charcot, the renowned professor of nervous diseases at La Salpêtrière, on "Metalloscopy and Metallotherapy applied to the Treatment of Grave Hysteria."* Not, of course, that there is any suspicion of fraud or perhaps even of delusion connected with the "new treatment," but the methods and results are sufficiently alike to provoke a comparison.

Metallotherapy, or, as it has been proposed to call it, "Burcism," was introduced to the notice of the profession by Dr. Burcq, of Paris. Prof. Charcot was induced to make trial of the method in his wards, and was so much struck by the result that he delivered the lecture above mentioned, giving an account of the *modus operandi* of the treatment, and expressing—somewhat guardedly, it is true—considerable interest in the matter and belief in the efficacy of metallotherapy.

It is, says Dr. Charcot, in that form of grave hysteria known as hystero-epilepsy, in which, in addition to the epileptic seizures, anæsthesia or hemianæsthesia, amyosthenia, and amblyopia are frequent

symptoms, that Burcism is peculiarly efficacious. It is of two kinds, external and internal.

External metallotherapy consists in applying metals to the surface of the body of sick persons. Internal metallotherapy consists in the internal administration of metals whose external use has shown them to possess certain powers.

In order to ascertain the metal suitable to a given case of hystero-epilepsy, the procedure called by M. Burcq "metalloscopy" is employed. An hysterical patient presenting, for example, left hemianæsthesia is examined by running a needle through the skin of the arm, and sensibility is found to be wanting. Then some bits of metal, one or more gold pieces, for instance, are applied to the skin of the affected side and maintained in contact with it for some time.

If the patient is sensitive to the metal selected, by the end of a variable period, from a few seconds to twenty minutes, she will feel numbness in the arm, which, if then pricked with a needle, shows returning sensibility. This is the first stage of the successive disappearance of the abnormal symptoms, and, among others, of anæsthesia. Hysterical anæsthesia is almost always accompanied by amyosthenia, but after the application of metals the patient acquires a very marked increase of muscular strength.

If the metal is kept applied to the skin, a curious occurrence is observed: the sensibility which had returned disappears once more, and often the recurrent anæsthesia is more intense than previously. If, on the contrary, the metal is taken away as soon as sensibility returns, this persists for several hours, and sometimes for one or two days. Moreover, it becomes general. But this is only temporary, and the patient soon relapses again.

Frequently, the occurrence of what Prof. Charcot calls "transfer-phenomena" is observed. The effect of the metal placed upon the anæsthetic arm is noticed in the corresponding part of the unaffected arm, an anæsthetic patch being observed to appear in this locality as the anæsthesia disappears from that part of the other limb covered by the metal. "Thus," says Prof. Charcot, "a sort of balance or displacement of sensibility is produced, which is certainly one of the most singular phenomena revealed by metallic applications."

* Lancet, 1878, vol. i. Nos. 3, 5, and 9.

Not only is the disappearance of anæsthesia determined by these applications, but also that form of amblyopia called achromatopsy, or narrowing of the field of vision in respect to colors, which is one of the symptoms of hystero-epilepsy.

This narrowing may extend to the loss of all notion of colors, so that the patient sees all objects as if painted in sepia. The colors disappear in regular order, first violet, then green, red, yellow. Blue is the last. "This is an occurrence," says M. Charcot, "which an hysterical patient can scarcely guess or be acquainted with." In the case of a certain hysterical woman on whom the experiment was made, hemianæsthesia and amblyopia of the left side existed, and all notion of colors had been lost in the left eye. This patient was sensitive to gold; a plate of this metal was applied to her left temple. A quarter of an hour later, various colored papers were passed before her eye, when it was observed that the perception of colors came back gradually according to the following order: first blue, then yellow, then orange, then green; violet was the last to be distinguished. On removing the gold plate, the faculty of distinguishing colors slowly disappeared in the same order in which it had come. This experiment could be repeated in the case mentioned again and again.

The same means which have been used to determine the metal appropriate to the patient may also be employed to ascertain the period at which the patient ceases to be under the influence of the diathesis. In the case of a woman under M. Charcot's care, in whom all the symptoms of hystero-epilepsy had disappeared under the influence of metallothrapy, gold was the metal which had been employed. The test was made then by applying some gold pieces to the left arm, the left side having been the one originally anæsthetized. Fifteen or twenty minutes after the application the patient complained of discomfort, became drowsy and ready to fall asleep. On pricking her arm with a needle it was observed that sensibility, which had been normal before the operation, was now almost entirely absent. There was, therefore, according to M. Charcot, cause to believe that the patient was still under the influence of the diathesis, in other words, not entirely cured. In speaking of this circumstance he compared

the action of the metal in these cases to that of ether, which brings out symptoms of a similar character in patients apparently cured, but in whom the diathesis has not been completely eradicated.

The metal required in a given case having been ascertained by the process of metalloscopy, it remains to put the treatment in practice. As above mentioned, two methods of metallothrapy have been experimented with, the external and the internal. External metallothrapy, as practised by Dr. Burcq, who alone has employed it, consists in attaching plates of the metal found to be suitable to different parts of the body, until in some cases the patient may be covered as with a coat of mail. This metallic application, as employed in one case recorded, induced at first a slight return of sensibility; but when continued the sensibility diminished again. After some time, however, an apparent cure was effected, but relapses occurred, and it was necessary to begin again the whole treatment, which, eventuating in the patient's recovery, extended over six or eight months.

Internal metallothrapy is, however, according to M. Charcot, most promising. Having practised metalloscopy, as above described, and having ascertained the particular metal to which the patient is sensitive, this is administered internally. Thus, if gold pieces produce the desired effect, the chloride of gold and sodium is prescribed; if copper, the acetate of copper, etc.

When Prof. Charcot was first approached by M. Burcq with the account of the new method of treatment, he placed four cases of grave hysteria, which were in his wards, at the latter's disposal. These were patients affected with hystero-epilepsy who had been in the hospital for eleven years and were considered incurable. Their cases were well known to many observers. In three the condition was greatly ameliorated; the fourth, if metallic anæsthesia be taken as a criterion, was entirely cured. Hemianæsthesia which had persisted for eleven years had disappeared, and the hystero-epileptic fits, which had formerly been very frequent and complete, had become very rare. In addition, Prof. Charcot referred to two cases of cerebral hemianæsthesia in which there could be no suspicion of hysteria, both of which were completely cured by metallic applications.

He mentioned at this point that hysteric patients are occasionally met with who are not sensitive to any known metal. Also, that the application of the suitable metal is without any effect when it is made at the time of the great attacks. A period of calm must be chosen in order that the action of the metals may be brought out in full relief.

Such is an epitome of Prof. Charcot's view of the new treatment by metallotherapy; and although at first sight the cures wrought by it may seem to have but little connection with the reputed wonders worked by "pointed metals," yet the two systems of treatment will be found on examination to have much in common. It is well known that the condition of mind known as "expectant attention" is highly favorable to the action of many influences upon the system. Dr. Carpenter, in his Physiology, gives instances where physical changes have been produced under the influence of this condition by inert medicines or simple passes or other meaningless movements. At the time when Perkinism was rife in England, Drs. Haygarth and Falconer, of Bath, selected certain patients in the hospital under their care for their experiments, employing two wooden tractors of nearly the same shape as those of Perkins and painted so as to resemble them in color. The cases chosen were those of chronic rheumatism in the ankle, knee, wrist, and hip, and of five patients all except one experienced great relief. Mr. Richard Smith, of the Bristol Infirmary, pursued experiments similar to those of Dr. Haygarth. In the case of a patient suffering with a rheumatic affection of the shoulder which rendered his arm perfectly useless, the man was told that there was an instrument which had been serviceable to many in his state, and he consented to undergo the operation. Lead tractors were used. In six minutes no other effect was produced than a slight warmth on the skin, but on the next day the patient was able to lift his hand from his knee (which he had endeavored in vain to accomplish just before the use of the tractors). The treatment was continued some time, wooden tractors, and finally iron nails, covered with sealing-wax, being employed, and the patient at length so far recovered that he could carry coals, etc.; yet previous to the use of the spurious tractors he could no more lift his hand from his knee than

if a hundred-weight were upon it. Dr. Haygarth gives the case of a man who had received but little benefit from medicine and was obliged for some time to hobble upon crutches with much difficulty and great pain. He attributed his illness to a violent cold. Upon the first application of the tractors (which were formed from a piece of bone) to his thigh, he experienced a pricking sensation; in a few minutes he could hardly persuade himself that they did not cut him. At the end of the operation he could use his limbs more freely, but complained that the doctor had driven the pain into his knee ("transfer-phenomenon"?).

"With such evidence as the foregoing of the advantages arising from the employment of wooden tractors," says Dr. Tuke,* "we may safely take the alleged success attending the use of metallic tractors as a fact, and only demur to the mode in which it is attained." And such, it seems to us, should be the attitude of the profession towards metallotherapy. X.

CORRESPONDENCE.

LONDON LETTER.

THE lectures before the Royal College of Physicians are just commencing. The first series are by Prof. Ferrier, of King's College, on the Localization of Function in the Brain; the second, by Dr. Pavy, on Diabetes; and the third, by Dr. Bucknill, on Insanity. Dr. Ferrier delivered his first lecture on the 15th of March. It was well attended, the theatre being crowded, for the generous way in which Dr. Ferrier acknowledges the work of others renders him a personal favorite, to say nothing of the attractiveness of the subject-matter. He commenced by pointing out that our knowledge of the nervous system is behind that of other organs, and that there is little general agreement yet beyond certain limited points. The morbid anatomy of the nervous system is not coextensive with its pathology, and as yet we can do no more than speculate as to the anatomical conditions which lie at the root of neuralgia, epilepsy, and other conditions. A certain series of symptoms must be found with a certain lesion with more frequency than can be accounted for by chance before their association causally can be admitted. In insanity the anatomical substrata of the different forms are not yet discovered, and the general paralysis of the insane is the only form in which the

* Influence of the Mind upon the Body, Phila. ed., 1873.

lesions are well recognized. And even when certain changes come to be found, it will not be easy to say whether they are the cause or the effect of the malady. A whole hemisphere may be destroyed without apparent consequences, but if a lesion exist in the same centres on both sides then the consequences are palpable enough. Observations as to altered mental states are not yet sufficiently minute and careful. And we had not as yet a regular standard by which to measure minds, else probably it would be found that even unilateral lesions are not without mental consequences. As to experiments upon animals low down in the vertebrata, they cannot be applied to man, and even similar experiments upon different animals have not been in strict agreement. The frog-and-pigeon physiology has done much harm to what is after all the most advanced of all forms of research into the functions of the nervous system. The facts of clinical medicine are not always sufficiently borne in mind by experimental physiologists. On the other hand, it has been stated by Brown-Séquard that cross-paralysis, which has been taught since the days of Aretæus, is neither an absolute rule nor an approximative generalization; but the fact is it is true, except for some two hundred cases collected from all antiquity. It does not seem to be occurring now, though it is quite possible that it occurs in rare cases, like transposition of the viscera. The great preponderance of evidence is in its favor. It would appear that as the hemispheres are evolved descending fibres also develop, which form afterwards the path of descending voluntary motor influences, and also of secondary degeneration when the motor centres are the seat of disease.

The modern view of the localization of function in the brain is of very recent origin. The famous Dr. Bright had correct views that unilateral epilepsy, not accompanied by loss of consciousness, was due to a lesion in the opposite hemisphere, in which he was followed by Dr. Samuel Wilks. But Dr. Hughlings Jackson was the first to associate motor disturbances with definite lesions. He observed, too, that they were not the result of mere transmitted influences, but were really discharges. The first definite motor centres were found by Fritsch and Hitzig. It was found that these motor influences were distinctly associated with the gray matter of the cortex. It had been said that it was impossible to localize the irritation, but that has been completely disproved. A distinct interval has been observed betwixt the application of the irritation and the movement, proving conduction. The view that movement is the consequence of mere physical conduction of the electric current is not supported by further experience. In performing experiments upon animals, allowances must be made for variations before the results can be applied to

man, and before one set of experiments can be contrasted with another set upon different animals. It was found, however, that after removal of the cortex all truly voluntary movements involving consciousness were removed, though the lower movements, as the automatic or reflex, remained, being associated with lower centres beneath. Thus, after destruction of the cortex in a dog, the foot still remained unaffected as a mere organ of locomotion, but it had become useless for all purposes where it was used as a hand. For physiological experimentation strict typographical accuracy was essential, and the same was necessary for pathological observation: consequently the older records of brain-disease were of comparatively little value. Indeed, at present, experimental physiology was far ahead of pathological research, and what pathology had achieved was largely due to preceding physiological experimentation.

As to the functions of the frontal lobe, it had been found that removal of them in monkeys was not followed by motorial or sensorial disturbances, but by an impairment of attention. Many cases of accident in man corroborate the results of such experiment. The only case the lecturer quoted was the famous American crow-bar case, where an iron bar, three feet and a half in length, an inch and a quarter in diameter, and weighing thirteen pounds, was driven through the left frontal lobe of a miner. It had a distinct orifice at entrance and exit, and was blown some yards away. The man was stunned for a brief period, but soon recovered, and walked up a flight of stairs and gave a lucid account of the accident. He got well, and lived twelve years after, dying in epileptic convulsions. The man could work well enough after, but he was found to be so altered in his character that he was quite unfit for his place as a foreman. From a keen-witted, long-headed fellow, he became capricious, vacillating, and unstable. He seemed like a boy with the passions of a fully-developed man, and, indeed, became so demoralized and deteriorated by the effects of the accident that his friends said he was not himself at all. This quite agreed with the effects of lesions in the frontal lobes of monkeys. They lost neither sensation nor motion, but they became dull, listless, and apathetic, lost their natural inquisitiveness, and did not move about except with purposeless movements, as it were from mere restlessness. The subject will be pursued in the succeeding lectures. The crow-bar case was illustrated by drawings and photographs which were furnished by Dr. Bowditch, of Boston. Some account of the next two lectures will be given in my next letter.

At the risk of being charged with egoism and some vanity, I may refer to the subject-matter of an essay to which has just been awarded the Fothergillian gold medal of the Medical Society of London. The subject of

the essay was "The Antagonism of Therapeutic Agents," a matter of great interest at the present time, and one which will wax in importance in the future. With the exception of a confused impression as to the antagonism of opium and belladonna, our knowledge has been almost confined to chemical antidotes and their utility in poisoning,—the use of sulphuric acid and of iodide of potassium in chronic lead-poisoning being an example. But recent researches have demonstrated that many agents have a physiological antagonism, which may be utilized practically. Thus, Prof. Frazer, of Edinburgh, worked out the antagonism of calabar bean and belladonna in the most thorough and efficient manner. He showed that not only could minimum lethal doses be successfully antagonized, but that considerably larger doses could be met successfully by correspondingly larger doses of the physiological antagonist. He made most exact observations as to the effect of calabar bean upon the respiration and the circulation, and showed how, when both were failing conspicuously, the administration of atropia restored them completely. In fact, the interest of the experiments performed so far has lain around those rhythmically discharging centres which preside over the respiration and the circulation. The centres for the respiration are situated in the medulla oblongata, the *nodus vitalis* of Flourens; while those of the circulation are essentially the ganglia which lie in the septa of the auricles and betwixt the auricles and ventricles. In both these motor centres there is an accumulation of energy which explodes rhythmically and sets the muscular mechanism in action. It is these centres upon whose activity life depends, and it is the effects of toxic agents upon these centres which make them dangerous to life. The unconsciousness produced by opium is in itself of little importance: it is the failure of the respiration first, and then of the heart next, which constitutes the real danger; and paralysis of the nerve-centres of these systems is the action of opium in toxic doses which is to be feared. Oscar Liebreich first observed that strychnia and chloral possessed a powerful antagonistic action, which might be utilized in practice; and there is a well-known case, published by Dr. Levinstein, where an overdose of chloral had been taken, and which recovered, after most grave symptoms had manifested themselves, by the use of nitrate of strychnia injected subcutaneously. Many experiments were performed by the Edinburgh committee of the British Medical Association, presided over by the late Prof. J. Hughes Bennett, by which the antagonism of various agents was demonstrated and proved.

Then Dr. Crichton Browne demonstrated how the convulsions produced by picrotoxine, the active principle of the *coccus Indicus*, could be controlled by chloral. It was very

interesting to watch two rabbits to each of which a lethal dose of picrotoxine had been administered, but to one the antagonistic dose of chloral had also been given. The first was subject to recurrent attacks of fearful spasm, very much like strychnia spasms, including opisthotonos, culminating in a terrible final convulsion; while the other lay peacefully before the fire, wrapt in chloral sleep, an occasional slight twitch alone indicating the presence of the picrotoxine. But if this second rabbit were wakened out of its chloral sleep, then a picrotoxine fit would come on, resembling those in the rabbit without chloral; before a second convulsion could come on, the chloral narcosis had resumed its sway, and the animal slept on undisturbed, to awaken up well alongside the stiff corpse of its less fortunate companion. It was evident that discharges from large motor areas were excited by the action of the picrotoxine, and that chloral could restrain them if given in sufficient quantity. These experiments have had much to do in deciding the present large resort to chloral in asylums to control maniacs and general paralytics in their recurring infuriated outbreaks of violence.

Then a series of experiments were performed by the writer to test the antagonism of aconite and digitalis in warm-blooded animals. It was soon apparent that in the rabbit and the guinea-pig digitalis did not sufficiently antagonize the effect of the aconite upon the respiration to be useful. It exercised some effect if given from five to nine hours before the administration of aconite. It, however, maintained the action of the heart, which was found contracted firmly after death; but it did not prevent efficiently the action of the aconite upon the respiration. The belladonna was tried and found to be a perfect antidote, as might have been expected from its well-known action as a stimulant to the respiratory centres and to the cardiac ganglia. The animals, expiring with respiratory gasps at gradually lengthening intervals, began to respire more forcibly after the administration of belladonna, and more quickly, until normal respiration was regained. The atropia was effective in saving life up to sixteen minutes after the injection of the aconite,—a long time in aconite-poisoning, but if delayed longer it prolonged life but could not save it. Then strychnia was tried, and was found most effective, the animals recovering swiftly, often only to die in the expiratory spasm of strychnia when perfectly recovered from the aconite-paralysis. At this interesting point the Antivivisection Act came into force, and brought to a close a series of experiments which are well worth carrying out by some investigator in a land less hampered than is Great Britain in the matter of scientific inquiry involving experimentation upon animals.

These observations as to the effects of certain toxic agents upon the action of other toxic

agents tell us much that can be made practically useful. In the first place, this physiological antagonism has been utilized in cases of poisoning, and strychnia-poisoning has been several times successfully treated by chloral, as well as the opposite in Dr. Levinstein's case. Dr. Dobie, of Keighley, used digitalis successfully in a case of aconite-poisoning, where the man was very far gone. Here the digitalis must have exercised some influence upon the respiration as well as the circulation, or else an effect upon the circulation is soon felt by the respiration, so closely are these two centres linked together. In a recent case the writer gave a grain of sulphate of atropia at once, subcutaneously, to a woman far advanced in opium-poisoning, with the effect of an early restoration of the respiration, which was notably failing while the pulse kept steady. Without previous acquaintance with the effect of the administration of a counter-poison to animals dying from the toxic effects of another poison previously administered, probably some hesitation might have been experienced as to the large dose adopted. The result, however, justified the size of the dose completely. In fact, our acquaintance with the subject of the antagonistic action of certain poisons must exercise a potent influence over the future of toxicology. Probably it will be found that the best plan of treating opium-poisoning will be to empty the stomach thoroughly, and then to inject subcutaneously a fourth or a third of a grain of atropia before the respiration has begun to fail; after that, to put the patient to bed, and watch assiduously the respiration, the circulation, and the body-temperature. If the respiration should still show indications of failing, to inject a second dose of atropia of equal size would be the best thing to be done, or even more if required. This would be much more effective than the plan of dragging the patient about and administering strong coffee, and would enable the medical attendant to take minute observations whose value we may not yet be in a position to estimate. A further outcome of such a plan of treating opium-poisoning would be that we would soon learn how far atropia could be trusted to antagonize the action of opium upon the centres of respiration and circulation, and how little it affects the action on the sensorium. There exist excellent grounds for believing that by such combination we will be enabled to give, without anxiety as to the result, much larger doses of opium or morphia than have hitherto been thought safe, in cases of severe pain, or in the fearful cough of some cases of softening tubercle. In all cases the toxic action of the opium upon the respiration should be made the ground for action, and not any change in the pupil, as has hitherto been done. The pupil is a dubious and unsafe guide, for it may be dilated by atropine even when the

dose is utterly ineffective to arrest the opium-poisoning, as was seen in a case lately recorded by Dr. Paget, of Cambridge.

Other uses of such advancing acquaintance with the effects of toxic agents upon the respiration are developing themselves. When the respiration is embarrassed in asthma we know that belladonna often gives great relief, as it also does in whooping-cough. But in order to give a remedy with some approach to rational certitude in either of these maladies, it is well to note the general condition of the respiration and be guided in the selection of a remedy accordingly. If it be found excited, give an agent which calms the *neud vital*; if depressed, a stimulant agent like belladonna is indicated. In a little time we shall prescribe with considerably more accuracy in these neuroses of the respiration. Then, too, in chronic bronchitis with emphysema, strychnia and belladonna are very useful, and in the bulk of cases give great relief. In more acute conditions they give much promise, and a friend of mine recently pulled through successfully, by the use of strychnia, a case of capillary bronchitis which seemed as if it must necessarily end fatally. It was with much satisfaction the writer read the paper by Dr. Reinhard Weber, in the *Philadelphia Medical Times* for February 2, on the use of belladonna in collapse, and the use of agents acting powerfully upon the respiration and circulation must obtain extensively in the future in temporary asthenic conditions where life is gravely threatened without death being unavoidable, and where a slight matter even may settle the question of life and death. But the subject cannot be pursued further within the limits of a letter.

A curious incident occurred at the Medical Society on the 18th of March. Dr. Weir Mitchell and Dr. Fordyce Barker, with Sir John Rose Cormack, of Paris, were recommended by the Council of the Society for election as Honorary Fellows. To the surprise of the Society, a black ball was found. So it became necessary to ballot for each singly, to discover for whom this black ball was meant. It turned out that it was for—or rather against—Dr. Fordyce Barker. The Society was very indignant at this cowardly proceeding, and was very sorry that any of its Fellows should have committed such a despicable act, as of course it did not affect the result at all. Such an act might furnish some satisfaction to the mean spirit which adopted it, but it made the whole Society, with this single exception, feel ashamed that such a thing should have been done towards one whom the Society felt it to be an honor to itself to elect an Honorary Fellow, and who is so well known on this side of the water as well as on yours. As a body we are only too proud to enroll Dr. Fordyce Barker's name on the list of Honorary Fellows.

J. MILNER FOTHERGILL.

REVIEWS AND BOOK NOTICES.

PROTEUS, OR UNITY IN NATURE. By CHARLES BLAND RADCLIFFE, M.D. London, Macmillan & Co., 1877.

The author introduces the book by quoting the legend of Proteus, taking the Bainian view, that Proteus was intended to typify the different elements and the availability of matter in its various transmutations for the creation of creatures of dissimilar type.

The book is divided into two parts, the one treating of matter, the other of force, and the "traces of unity," as the author terms it, to be found in both.

In Chapter I. the author indicates the traces of unity in plants, dealing with the relative value and citing instances of the interchangeability of their different parts.

In the next five chapters the traces of unity in the different parts and organs of the vertebrate and invertebrate animals are dwelt upon, and the readiness with which one organ or appendix may perform the functions of and actually develop into another part is clearly pointed out.

Chapter VII. is devoted to traces of unity in animals and plants. Part I. closes with a chapter on the unity in organic and inorganic matter. In Part II. Chapter I. deals with the various modes of physical force, and closes with the announcement that "the idea of unity underlies that of correlation," and that "the two must stand or fall together."

Chapters II. and III. are devoted to the traces of unity or, as it is subsequently called, the correlation of vital and physical forces.

In Chapter IV. the author takes up instinct and the traces of unity to be found in its phenomena. He concludes that "the phenomena of instinct are the effects of a force as general as that of gravity, and in which that which is physical and that which is vital may find a common centre."

In the next chapter the author, not satisfied with a pedigree which carries him back to Adam, claims that the sphere of his "transcorporeal presence is coextensive with that of this universe." This and the remaining chapters cover the traces of unity in the phenomena of memory, imagination, volition, and intelligence; also in the personal, social, and religious life of man. He finds "that the phenomena of mind point to transcorporeity, and through transcorporeity to unity in diversity and diversity in unity,"—a striking and lucid conclusion. He also argues that "without disembodiment man may be the image of God," and "that the sphere of humanity is wide enough to include the very widest conceptions of divinity."

In these later chapters he grapples with metaphysics till his English fails him, when he lapses into Greek. He fortifies himself by numerous Scriptural quotations, and then for

the first time makes open issue with *evolution*, the enemy he has been fighting from the beginning, though his first mention of it is on the last page but seven of his work. He expressly says, "I can see nothing to be said in favor of evolution."

Whatever may be the reader's views on evolution and special creation, he cannot fail to observe that the author of Proteus has based forced and unscientific conclusions upon the facts he has adduced. Nothing but deep-rooted prejudice can account for the obliquity of vision which leads one who claims not only a unity of structure, but a unity of origin as well, for all things mundane and celestial, to fail in discerning a possibility of development of one form from another. With a degree of inconsistency and complacency the author can detect but a difference in degree between the human and the divine, while his pride of ancestry will not permit him to acknowledge that God might have produced his noblest work, not by an abrupt interference with his own established laws, but through their harmonious operation, by developing the nobler from the humbler. The author is indebted entirely for his scientific data to such men as Owen, Spencer, Darwin, Wallace, Huxley, and others. Yet he totally ignores all the more prominent of them. He is strongly addicted to long and labored compilations of trite instances. Thus, in the first chapter, with refreshing originality, he cites the megatherium and arranges it side by side with the two-toed sloth, and proceeds by comparing the webbed foot of the seal with the paddle of the whale, throughout the book advancing borrowed ideas and bringing forward facts without the slightest allusion to authority.

Chapters VI., VII., and VIII. contain many striking points of resemblance to the chapter on Homologies in Mivart's *Genesis of Species*. A very similar line of reasoning is pursued, and in numerous instances almost identical examples are set forth, all of which the reader is permitted to infer are quite new and original.

The book, evidently written in the interest of orthodoxy, is conspicuously chary even of the mention of those who in the cause of science may be supposed to have assumed an attitude in any way hostile to the cherished views of the strictest churchman.

The world may be the better, but it can be none the wiser, for the publication of the work.

J. B.

ATLAS OF THE OSSEOUS ANATOMY OF THE EAR. By N. RÜDINGER, M.D. Translated and edited by CLARENCE J. BLAKE, M.D. Boston, A. Williams & Co., 1874.

This portfolio consists of eight excellent photographs, of which the first only was made in this country, and of explanatory text. The text is well done, and the whole get-up of the work is very handsome.

GLEANINGS FROM EXCHANGES.

ANOTHER CASE OF ARSENICAL POISONING SUCCESSFULLY TREATED BY DIALYZED IRON.

—James Hayes, M.D., C.M., Simcoe, Ontario, in the March number, 1878, of the *Canada Lancet*, says that during the evening of November 14, 1877, he was summoned to Mrs. B.'s charwoman, who had accidentally taken at least a half-teaspoonful of arsenic. Half an hour to an hour after the ingestion of the poison, the stomach having been thoroughly emptied by an emetic, a tablespoonful of dialyzed iron, diluted with water, was given, and was rejected in a few minutes. Thirty-drop doses were employed every twenty minutes for two hours, and afterwards at longer intervals. About two hours after the doctor's arrival, alarming symptoms of collapse showed themselves; the pulse became extinct at the wrist; the skin cold and clammy, etc.; but by taking brandy freely, with the application of hot bottles and friction, she began to revive, and went on gradually improving until, in about ten days, she appeared to be restored to her accustomed good health.

RAPID CURE OF DEPRESSED FRACTURE OF THE SKULL (*The Clinic*, February 16, 1878).—M. Cazin reports the case of a sailor-boy, aged 14, who received a blow on the head depressing the skull, and causing facial paralysis, mydriasis, and aphasia. In a consultation trephining was determined upon, but the boy's father objected. At his visit the next day the surgeon found the patient sitting up in bed playing cards. A day or two afterwards he remained up most of the day, and in five days the facial paralysis and mydriasis had disappeared, and the aphasia had greatly diminished. In twenty days all that remained of the trouble was the cranial depression. To-day he is perfectly well.

TREATMENT OF TRANSVERSE FRACTURE OF THE PATELLA AND OLECRANON PROCESS (*New York Medical Journal*, March, 1878).—Schede considers the obstacle to bony union in these fractures to be not so much the difficulty of coaptation as the delay (two weeks) in applying apparatus, occasioned by waiting for the absorption of effusion into the joint and the overlying bursæ. For the patella this treatment is recommended. Puncture of the joint (and the bursa patellæ, if necessary) with a good-sized trocar, with antiseptic precautions, injection of three-per-cent. solution of carbolic acid, closure of the wound with a piece of protective silk and a ball of salicylic cotton, approximation of the fragments by means of adhesive straps, and a gypsum splint from the ankle to the hip. The splint and plaster should be replaced by a second similar dressing at the end of eight days, and by a third in eight or ten days more. In three cases bony union was obtained, the bursa patellæ being punctured in but one. In two others a short ligament united the

fragments. In these, failure is attributed to omission of some of the details above given, —e.g., irrigation of the joint and renewal of dressing. In a large number of fractures of the olecranon in which bony union resulted, fixation of the fragments with adhesive straps and the plaster-of-Paris splint (in extended position), with frequent renewal, was the method employed. No case yet has demanded puncture of the joint.

INFLUENCE OF SULPHATE OF ATROPIA ON NIGHT-SWEATS, AND ON THE PROGRESS OF PHTHISIS (*The Hospital Gazette*, February 1, 1878).—Oettinger employed sulphate of atropia in forty-five cases of phthisis. The solution contained one and a fifth grains to the ounce of distilled water, of which ten to twenty drops were given daily. In twelve cases the sweats disappeared with the first dose and did not return. In eighteen cases the sweats reappeared when the medicine was suspended, and he found it necessary to renew for a long time, with care to have occasional intervals of four to eight days. The only disagreeable results were slight pruritus of the neck, and dilated pupils. He concludes that the influence of sulphate of atropia on the temperature is absolutely negative. It also has no effect in checking the progress of the disease, except so far as the night-sweats are lessened and the invalid rests better.

MISCELLANY.

TRIBUTE TO A PHILADELPHIA PHYSICIAN. —We are so apt to think of foreign medical leaders and to overlook the merit of those of American growth, that such testimony as that given below comes sometimes with startling force. It is accorded to our townsman, Dr. Isaac Ray, in the last number of the *British and Foreign Medico-Chirurgical Review*: "They [his papers] are the production of a veteran student of psychology in the best and scientific sense of that term; of one practically and for long years acquainted with the relations between medicine and law as affecting the insane; of a calm, deliberative, judicial mind; of a pure, honorable, upright character; of a philosopher as well as a philanthropist; whose beneficent and successful labors in the cause of truth and humanity have gained for him, by the unanimous acclamation of his fellow-workers, the well-earned and noble title of '*the Master*.'"

OUR learned friend who edits the *New York Medical Record* is becoming alarmingly brilliant. Witness the following extract:

"*Lister's Method*.—One reason why operations are nowadays so successful is probably owing to the fact that before they are commenced the operator very properly says, 'Let us spray.'"

TREATMENT OF METRORRHAGIA BY HYPODERMIC INJECTIONS OF ERGOTIN.—M. C. Paul, in the *Bull. de Thérap.*, gives the details of fourteen cases in which the uterine hemorrhage was arrested in from five to sixteen minutes, by the following solution :

Ergotin, 2 grammes;

Water,

Glycerin, āā, 15 grammes ;

of which from 1 to 2 grammes were injected. M. Paul concludes that the hypodermic injection of ergotin is the most rapid and the most efficacious means that we have at our disposal in the treatment of metrorrhagia.—*Medical Press and Circular*.

TRICHINÆ IN THE FLESH OF GESE.—Sixty soldiers of the garrison of Thionville lately fell sick of trichinosis, and two of them died. It has been ascertained that the disease arose, not from pork, but from the flesh of geese which they had eaten.—*Medical Press and Circular*.

NOTES AND QUERIES.

HOMŒOPATHY.

EDITOR OF THE PHILADELPHIA MEDICAL TIMES :

DEAR SIR,—The following editorial from the New York *Herald* of the 16th inst. may be of interest to many of your readers :

"HOMŒOPATHIC DILUTIONS.—There are one hundred and eighty physicians, more or less homœopathic, who are members of the Homœopathic Society, and it is said by themselves that only three of the whole number practise the real, original Simon pure, unmistakable *similia similibus curantur*, as the aforesaid was practised by Hahnemann himself at those periods of his life when he did not practise something else. But now arises at a homœopathic powwow an indignant orator, who declares that every member of this school who does not practise the homœopathic principle is a 'living lie.' Living lie is good! It is striking, vigorous, and melodramatic. If all these statements that the homœopaths make about themselves are true, there are, therefore, just one hundred and seventy-seven living lies of them, which ought to make a lively company. If the three referred to are pure homœopaths, and the others depart from the dogma in various proportions, they may have it as they do the little pills to the one hundred and seventy-seventh dilution, which is pretty thin. And yet, upon an immutable principle of their own theory, the man who has got homœopathy in the one hundred and seventy-seventh degree—the feeblest of their dilutions—is the best homœopathist of all. This, of course, is on the principle that if a small dose is more effective than a large one a still smaller must be more effective than that small one, and so on *ad infinitum*. This is a doctrine consecrated by the teachings and practice of Hahnemann also. If that distinguished man, when he was giving pills of the millionth dilution, found them ineffective, he always knew immediately that it was because they were too strong. He substituted for them, in such cases, anything up to the ten-millionth dilution, and his patients immediately got well. This principle ought to be as good in its application to doctors themselves as to their pills, and the effort to apply it has, in fact, lately excited the homœopathic brethren. Some days ago the highest dilutions of them voted that, as the slang goes, they 'didn't want any *similia similibus* in theirs;' and now the other party has rallied, made a rush, captured the guns, and the standard of *similia similibus* waves triumphantly once more. All this is of peculiar interest to the public as showing that the homœopathic practitioners, so called, and a very great majority of them, are of opinion that homœopathy is a delusion that should now be buried decently."

Although this is a bold declaration of one of the laity, it expresses opinions which many of the regular profession have for years entertained about this "delusion," for so long a time abandoned, in practice at least, by the vast majority, to say the least, of even its own devotees.

Very sincerely yours,

W. H. H.

As many of our readers may not be familiar with the occurrences which have drawn forth the above and other similar editorials from the New York *Herald*, a few words of comment seem appropriate. The sensation made about a year ago in London by the assertions of Dr. Wyld, Vice-President of the Homœopathic Association of Great Britain,—the troubles which they gave rise to in the Association,—the fact that a large portion of the members openly acknowledged homœopathy as a delusion, must be familiar to all our readers. It appears that the same spirit of honesty which has troubled the waters abroad has moved in New York, and that even social honor, pecuniary hopes and rewards, professional etiquette and *esprit de corps* have not been sufficient to bind up the new Caliban.

We have not had time or opportunity to follow up in detail the discussion in the New York Association, but it appears to have culminated in the offering of the following resolution, which was, we believe, originally passed at a special meeting on the 8th of February, and again taken up about a month subsequently :

"Resolved, That in common with other existing associations which have for their object investigations and other labors which may contribute to the promotion of medical science, we hereby declare that, although firmly believing the principle '*similia similibus curantur*' to constitute the best general guide in the selection of remedies, and fully intending to carry out this principle to the best of our ability, this belief does not debar us from recognizing and making use of the results of any experience; and we shall exercise and defend the inviolable right of every educated physician to make use of any established principle in medical science, or any therapeutical facts founded on experiments and verified by experience, so far as in his individual judgment they shall tend to promote the welfare of those under his professional care."

The discussion following the second introduction of this resolution was neither inane nor listless. On the final calling of the yeas and nays a tie resulted. One member, who had not voted, was subsequently induced to vote, which he did affirmatively, so that the resolution was carried.

Little by little is creeping out that which the regular profession has long known, namely, that for a man to be a homœopathic physician at present necessitates that he be ignorant, foolish, or knavish,—that is, if it be knavish "to live a lie." When Hahnemann arose, infinitesimals left cases of disease to nature, and nature was better than the medical practice of the day; so that Hahnemannism, though absurd, had a justification in its comparative results. But compared with the scientific cautious practice of the present, Hahnemannism has no justification, for the present practice acknowledges the supremacy of nature, and demands that the physician should only with cautious care strive to assist, not thwart, nature's plans and methods of relief.

Homœopathy has a seeming vigor to-day only because unprincipled men, whilst administering remedies in accordance with modern science, take advantage of the credulity of men, clergymen, and women, to delude with the idea that their practice differs greatly from, and is much less dangerous than, that of the regular physician.

ED. PHILA. MED. TIMES.

ERRATUM.

THE number of professors at the dental colleges is five instead of four, as was inadvertently stated in an editorial in this journal for March 30.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM MARCH 26 TO APRIL 6, 1878.

BACHE, D., MAJOR AND SURGEON.—Leave of absence extended one month. S. O. 44, Division of the Pacific and Department of California, March 18, 1878.

MCCLELLAN, E., MAJOR AND SURGEON.—Assigned to duty as Post Surgeon at Fort Vancouver, W. T., relieving Surgeon Alexander. S. O. 27, Department of the Columbia, March 13, 1878.

BARTHOLF, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post Surgeon at Fort Lapwai, Idaho. S. O. 27, c. s., Department of the Columbia.

BURTON, H. G., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Camp McDowell, A. T. S. O. 26, Department of Arizona, March 18, 1878.

PHILADELPHIA, APRIL 27, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON LICHEN PLANUS.

BY LOUIS A. DUHRING, M.D.,

Professor of Diseases of the Skin in the University of Pennsylvania.

Reported by ARTHUR VAN HARLINGEN, M.D., Chief of the Skin Clinic.

GENTLEMEN,—The patient, Mrs. E., presents herself at the clinic to-day for the first time, giving the following history. She is 38 years of age, married, and has given birth to nine children, six of whom are now living. Up to the time when the present affection made its appearance, her general health had always been very good. She has never had rheumatism. During childhood she suffered from occasional attacks of "hives." Since then she has never had skin disease of any kind whatever, until last August, during the earlier half of which, and while the weather was very hot, she began to notice an eruption gradually showing itself here and there. This consisted at first of a few papules scattered over the chest and back, which by degrees became more and more numerous, the old ones remaining while new ones continued to show themselves. Within two weeks the eruption had spread so that the chest and back were very nearly covered. It then extended gradually down the arms, forearms, and even to the backs of the hands, the palms remaining free. Later, it appeared on the thighs below the groins, and on the buttocks, and extended, as in the case of the upper extremities, slowly downwards, the backs of the feet becoming finally involved, but the soles remaining free. By the middle of October, two months after the onset of the eruption, it had reached its present extent, and during the last six weeks it has been very nearly at a stand. A few lesions still show themselves from time to time, while some of the older patches are dying away.

When the eruption first appeared, the individual papules were no larger than pins' heads, and bright red in color, so that they were mistaken for prickly heat. The larger patches at present existent have been formed by a number of small lesions coalescing. The patient is quite sure that

the individual papules have not increased materially from their original size. The color of the lesions changes as they grow older, becoming after a time purplish, more dusky and brownish. During the first six weeks after the outbreak of the eruption the general color was quite bright red, but about that time it seemed to become all at once very generally darker. There has never been any exudation of fluid at any period of the disease; no vesicles have formed, and consequently no crusts have been observed; the eruption has at all times been perfectly dry.

Itching has been a very constant and annoying symptom. Of late the patient has been so tormented by it as to be scarcely able to sleep. When out in the open air and in cold weather, she is not much annoyed by it, but when she perspires freely or becomes warm in bed the itching is intolerable.

Her general health, which, as stated, had been good up to the appearance of the eruption, has since that time become gradually impaired. She feels feeble and languid, and has not the same disposition to active work as formerly. Her appetite is good; bowels regular; menstrual function normal. She is at present suckling an infant fifteen months of age.

Coming now to the present aspect of the affection, we find the patient a medium-sized woman, thin, almost wiry, with a sallow, dark complexion, and a tendency to the deposition of pigment, due, she asserts, to exposure, and not connected in any way with the disease.

The eruption is, we see, disposed over the surface as above described. The head and neck are entirely free, as also the palms and soles. On the trunk the eruption is most plentiful over the back and shoulders, somewhat less so on the chest, and becoming more scanty lower down, until over the lower abdominal, inguinal, and gluteal regions it is quite sparse. Over the arms and legs, particularly from just above the elbows to the wrists, and from just above the knees to the ankles, the eruption is most profuse; the backs of the hands and fingers and of the feet are less affected, a few lesions, however, being found even beneath the instep in the latter.

The eruption is everywhere papular in character; no vesicles or pustules exist in any locality. In size the lesions usually

vary from pin-head to pea size or larger. Their shape varies greatly, the newer ones being small, round, smooth, and sharply defined, while the larger ones are more irregular. Occasionally a triangular papule is observed, while the larger aggregated patches display every variety of unsymmetrical form,—oblong, oval, round, or squarish. Occasionally they are arranged in rows like beads on a string. The newer papules are raised and slightly rounded, the older and larger ones flatter and almost or quite level with the skin. Some of the oldest seem even a little depressed. Their contour is always sharply defined, and they show no areola; they are only slightly infiltrated. The newer lesions are bright red, the older ones dusky purplish; the latter is the prevailing tint of the eruption viewed as a whole. On pressure, the red color disappears, leaving, except in the most recent lesions, a purplish stain. The eruption is not scaly except about the knees and elbows, where the papules are covered with closely adherent micaceous scales. On the trunk the lesions are more uniform in size than elsewhere, being large pin-head size, and occasionally assuming an annular grouping. Here and there the larger patches are divided into squares by the natural folds of the skin. About the knees, where these are largest, they are as large as a quarter-dollar, and rough upon the surface.

The papules seem to be quite independent of the hairs and sebaceous follicles. Sometimes they are grouped so as to give the impression of an umbilicated patch; the individual papules are, however, not umbilicated. In addition to the primary lesions described there are numerous scratch-marks here and there, indicating a certain degree of itching.

The case, gentlemen, of which you have just heard the notes, is interesting both on account of the rarity of the disease, and because it is so well marked an example. Lichen planus is an affection about which but little was known until Mr. Erasmus Wilson, of London, some ten years since, in an able paper, described a number of cases, and called attention to the prominent features of the disease, and showed wherein it differed from other similar affections with which it had been confounded. Since then, cases have been reported from time to time both abroad and in our own country.

In Philadelphia it is certainly a rare disease, being encountered in my experience only now and then. I can recall but a few cases, and most of these manifested the lesions in a very imperfect, atypic form, so that in some instances the diagnosis could be made only after close attention and study. The patient before us to-day, however, shows the affection in a well-defined manner, which enables me to point out its prominent and characteristic features.

The disease is met with as a rule in adults, and, according to my experience, more particularly in middle-aged persons. The majority of the cases have been women. Most if not all of them have been in a more or less impaired state of general health, as happens in the case we are considering. The eruption may be either a trivial one, consisting of a few scattered lesions, or a severe one, as in the present instance, involving the greater part of the general surface. It manifests predilection for certain localities, and is most frequently found upon the extremities, especially the forearms. It is remarkable for the irregular distribution of the lesions. These are papules, but they vary considerably in different cases as to their size, shape, and general form. In the patient under consideration we observe that they vary in size from a small pin-head to a split pea or larger, and that they are exceedingly irregular in shape, many of them being distinctly angular in outline. The latter feature serves to distinguish the papules of lichen planus from those of other papular diseases. At times the lesions are quite squarish in form. We have seen that many of them are triangular. The papules are smaller here than usual; they vary, however, considerably in size. Ordinarily they are about a line in diameter. The patches of coalesced papules also vary in size; they are very irregular in outline, and may be the size of a small or large coin or as large as a hand. Where the disease is of long standing and spreading, large surfaces may be involved. Their flatness is another conspicuous feature to which I wish to call attention. It will be noticed that the larger papules especially are quite flat on their surfaces. They rise from the sound skin quite perpendicularly, but have distinctly flat summits. In this respect they differ from the papules of eczema, which are generally rounded or acuminated. The flatness of the lesions,

however, in this case is not so marked as I have observed it in other instances.

Another symptom, which is usually present but appears to be wanting here, is a central depression or umbilication of the papules. We ordinarily see this, although it is not unfrequently but slightly indicated, especially where the lesions are small. And I think it is for the reason that the lesions are particularly small that this feature is absent in the present case. More or less scaling also usually takes place from the older papules in the form of a thin, dry, horny, scanty layer of cuticle. When the papules have coalesced and patches have formed, the scaling is somewhat more abundant, but it is seldom a marked symptom. It will, moreover, be noted that the papules are but slightly elevated above the surface of the sound skin. The newer ones are more raised than the older ones, and can be felt distinctly under the finger. The larger and older lesions are flattened, and in many places are scarcely raised above the general surface. Upon close inspection I cannot find that the hair follicles are involved more than other portions of the skin.

The color, also, is a point to which attention must be directed, for it is peculiar. Beginning usually as bright-red lesions, they soon assume a dark-red, purplish, violaceous hue, which in time becomes more or less brownish. The color is less bright than that seen in papular eczema, and, on the other hand, bluer and less coppery than that met with in syphilitic papules. And it is with these two diseases that one is likely to confound lichen planus. As the papules disappear they are succeeded by marked pigment deposit, which appears in the form of brownish or more or less dark bluish-red spots. These pigmentary changes are always striking, and in the case before us we see that they are not wanting. They are persistent, fading away slowly, only in the course of months. The itching in lichen planus varies greatly; in some cases it is entirely absent, while in others it constitutes a prominent symptom. The more rapidly the lesions show themselves, and the more acute the attack, the more severe in all probability will the itching be.

The cases which I have seen in Philadelphia have all been amenable to treatment, although the improvement has usually been slow. In severe cases the experience of

other observers shows that the disease can be a very obstinate one, yielding only after a long-continued treatment.

The remedies I would suggest in the present case are iron and arsenic in small doses, together with cod-liver oil; for it is apparent from the general state of the patient that remedies of this kind are demanded. The patient's general condition is far below the average, and, according to her statement, has during the past three months been tending this way rather than to a better state. Arsenic has been found to be our best remedy for lichen planus, but I should hesitate to order it indiscriminately in every case. I should indeed prefer to treat this disease on the principles of general medicine, just as I should any grave case of papular eczema.

Nothing has been said concerning the relationship of lichen planus to lichen ruber. Latterly, the opinion of dermatologists of all countries inclines to the view that lichen ruber as described by Hebra, is but an advanced form of lichen planus. Here the papules have coalesced and have formed solid patches of infiltration, covered with more or less scale. The disease when it has arrived at this stage is often a serious and rebellious one. Lichen ruber as seen in the Vienna clinic is, up to the present time, unknown in our skin clinics in Philadelphia; consequently the subject need not at present occupy our attention. Prof. White, of Boston, has lately reported in the *New York Hospital Gazette* a well-defined example of the lichen ruber of Hebra, which occurred in his practice. The patient, a woman, made a good recovery under arsenic.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF NAPELLINA AND ACONITIA.*

BY J. MONRO MURRAY, A.M., M.D.,

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PART I.

IN the aconite tubers there are two principles: one is mainly narcotic, and agrees in its action with the aconitia of the Continent, especially with that of Ger-

* This article is an abstract of one of the theses to which the Alumni prize was awarded at the Commencement of the Medical Department of the University of Pennsylvania, 1876.

many; the other is extremely acid, a property possessed by the June aconitia of Morson of London. This acid aconitia has been called napellina by Flückiger, and aconitia by Ludwig. In the species *Aconitum napellus* there are the alkaloids aconitia and napellina. Wright states that it also contains picroaconitia. In *Aconitum lycoctonum* are found the alkaloids lycoctonia and acolyctine, the latter being identical with napellina. Wright concludes that the aconitin of *Aconitum napellus* seems to be wholly dissimilar to the crystallizable alkaloid of *Aconitum ferox*,—pseudaconitin,—and that it is not improbable that lycoctonia and napellina are the products of the action of chemicals on crystallizable aconitin.

NAPELLINA.

Napellina was first announced to the scientific world in 1852 by Hubschmann.* The first experiments on its physiological action were made by Schroff Senior, shortly after its discovery. He used Merk's article, and, from observations on men and rabbits, inferred that its action was not essentially different from that of Geiger's preparation of aconitia. He gave to men doses of .002, .01, and .04 gramme. In the larger doses he found that it produced increased flow of saliva, a sense of warmth in the stomach, borborygmi, heat in the face and scalp, a peculiar feeling of dryness and tingling in the fauces, formations, faintness, and insomnia, with marked slowness of the pulse. In rabbits, after the exhibition of .01 gramme by the mouth, there were chewing movements, long shreds of saliva protruded from the mouth, muscular twitchings, ephemeral fever, and injection of the ears. At first the pupils were irregular, but in the final stage of the poisoning they became markedly dilated. The respiratory movements were slow, and death ensued after the administration of .05 gramme. On post-mortem examination there were found congestions of the mucous membrane of the gastro-intestinal tract and extravasation of blood into the stomach.

The next experimenters were Bucheim and Eisemerger,† who observed that the action of napellina was not essentially different from that of German aconitin. They made numerous experiments on its

action upon the muscular system of frogs, using a one per cent. solution of the acetate of napellina. In these investigations they observed that the muscle-curve of napellina was different from that of aconitia as described by Weyland. In their experiments on the general system they noted that after the injection of .0015 gramme of napellina hypodermically, slight paralysis and muscular fibrillary contractions followed. Von Schroff, Jr., has made a large number of valuable contributions to our knowledge of the Ranunculaceæ.‡ He gives a graphic account of the symptoms which occurred in the case of Herr Kreug, to whom was administered .03 gramme of napellina. The taste of the drug was at first bitter, becoming afterwards more astringent, the latter sensation remaining on the tongue for at least a half-hour. The pulse, which prior to the experiment was seventy-two, in twenty minutes was reduced to sixty-eight per minute. He also had severe headache, and shooting pains in the teeth and jaw. After thirty minutes he complained of pain in the top of his head, cold sweats, and nausea; pupils were moderately dilated, and utter exhaustion and incapacity for mental work were experienced. Schroff's experiments on rabbits gave results analogous to those observed in men. He used .04 gramme of the acetate of napellina either subcutaneously or by the mouth. His experiments on frogs were made with doses of .005, .001, and .002 gramme. The larger doses caused loss of reflex action and motor paralysis.

With this résumé of the principal experiments on the action of napellina, I will give my own observations. The napellina that I used was procured from the Trommsdorf laboratory. It was of a bitter taste, and answered to the tests that Hubschmann has given,—that is, it was a yellowish-white uncrystallizable powder, gave no precipitate with ammonia, and was insoluble in ether and benzole. My experiments were made on dogs, cats, rabbits, frogs, and pigeons. The phenomena which were developed by the alkaloid in mammalia were very constant.

The classic descriptions of the two Schroffs (father and son) have been repeatedly demonstrated to me during my observations on warm-blooded animals. I

* Mittheilungen d. Schweiz. Apotheke Vereins, S. 39.

† Eckhard, Beiträge zur Anatomie und Physiologie, 1870, S. 133.

‡ Beitrag zur Kenntniss des Aconits, Wien, 1871.

have observed that frogs are deprived of voluntary motion by the hypodermic administration of .005 gramme of this alkaloid, and that the rapidity of the ensuing paralysis depended on the amount of the dose. The first muscles affected were those of the abdomen; these primarily exhibited twitchings, which spread in a short time over the whole belly. The frog usually made violent retchings, by which it would sometimes protrude the stomach from the mouth, an action which is peculiar to the batrachian, and which Boehm and Wartmann observed in aconitia-poisoning of the same animals. The paralysis usually appeared in the following sequence: 1, in the muscles of the abdomen; 2, in the respiratory apparatus; 3, in the lower extremities; 4, in the anterior extremities. The decubitus was usually abdominal, although varied by spasmodic attempts to assume an erect posture; the pupils were dilated; complete loss of reflex action; slow respiration, and, finally, complete paralysis of the whole body. The frog's heart was in no instance paralyzed by napellina, although the strength and frequency of the contractions were very much impaired.

In the case of rabbits, cats, and dogs, I noticed, after the injection into the jugular vein of the alkaloid, that a peculiar sucking movement was the first phenomenon that appeared; the respirations were less frequent and the inspirations much deeper; there ensued violent retchings and clonic contractions of the abdominal muscles, then contractions of the general muscular system, and special tonic spasms of individual groups of muscles. The paralysis of the voluntary muscles precedes that of the respiratory apparatus in mammalia, for after the administration of .05 gramme of napellina subcutaneously the animal will live in a semi-paralyzed condition for hours. The pupils are at first sluggish to light, sometimes contracted, but, as a rule, dilated, especially in the last stages of the poisoning. Death is not preceded by any special convulsion.

Dogs seem to have a special immunity from the toxic effects of napellina, whilst, on the other hand, cats succumb very easily to this poison. The post-mortem appearances in warm-blooded animals are very constant. The bladder is very much distended by turbid urine, which, on testing, reveals neither albumen nor sugar.

The lungs and kidneys are intensely congested. As a rule, there is no lesion of the stomach, except congestion of the gastro-enteric mucous membrane. The heart is always found in a state of extreme diastole, which is so marked that it is difficult to lift the pericardium from the enclosed viscus. The right side of the heart is full of dark, venous blood, which shows little tendency to coagulate; the general venous system is engorged. The contractility of the striated muscles is preserved. The temperature taken per rectum is generally reduced 3.5° C. I have in all my experiments on warm-blooded animals injected the poison into the jugular or some other large vein, except in a few experiments which were made on the general action of the drug.

I may here mention that it takes six or twelve times the dose of the poison to produce the same effect hypodermically that it does when introduced by a vein. The cause of this is partly due to the retardation of the circulation, especially in the capillary system, and partly from the well-recognized fact that the amount of the poison in the blood-vessels is only the difference between the amount absorbed and excreted in a given period of time; so that, if the absorption is slow and the excretion rapid, the amount of poison at any one time in the circulatory system is small, which is the case when napellina is administered hypodermically; but when the drug is thrown into the vein the blood contains, in a given time, a much larger quantity of the poison, and the symptoms are very quickly developed by a small dose. The experiments on the circulation were made on dogs, cats, and rabbits,—thirty in all,—the majority being on cats.

The external jugular and saphena veins were used for the introduction of the poison, and the carotid usually for the manometer. The solution of napellina used was strictly neutral, and each cubic centimetre contained one centigramme of the drug dissolved in acetic acid.

Experiment I.—Cat; jugular and carotid prepared; tracheotomy; animal on Czermak's rabbit-holder; curare not used.

TIME, A.M.	PULSE.	PRESSURE.
	46	176
	Napellina, .01 gramme.	
10.3.15	56	166
10.3.38	55	140
10.3.45	52	120 Struggles.
10.4.0	52	94 Respiration nearly suspended.

10.7.51	Artificial respiration.	
10.15.17	Curare injected.	
10.15.43	70	74
	Napellina, .01 gramme.	
10.15.58	68	78
10.16.13	69	84
10.17.8	55	50
10.41.11	56	65
	Napellina, .01 gramme.	
10.41.26	54	65
10.43.38	38	44

This experiment was repeated upon the cat, rabbit, and dog, with precisely similar results.

It is evident that napellina decreases the arterial pressure and materially slows the pulse. In some cases a primary rise of pressure is noted. The diminution of the blood-pressure may be due to slowing of the heart's action, or to the heart propelling less blood, or to dilatation of the capillaries, or to a contraction of the pulmonary capillaries causing an obstruction to the flow of blood, and hence a less flow of blood into the heart, and thence into the arterial system, in a given time. The slowing of the pulse may be due to excitation of the cardio-inhibitory apparatus, or to weakness of the cardio-motor ganglia, or to change in blood-pressure.

To determine in which of these methods napellina acts, the following series of experiments was instituted:

Exp. II.—Small cat; vagi divided; artificial respiration; curare used.

TIME, P.M.	PULSE.	PRESSURE.
	71	166
	Napellina, .01 gramme.	
4.25.15	62	164
4.25.30	67	114
4.25.45	67	79
4.26.0	71	64
4.26.30	60	58
4.26.45	Animal dead.	

A repetition of this experiment gave identical results. The same fall of pulse and pressure occurred as when the vagi are not divided. Hence it may be inferred that central irritation of the cardio-inhibitory apparatus is not the fault of the slowing of the heart.

Napellina, however, paralyzes the vagi. To demonstrate the irritability of the vagus at different times, and to show its final paralysis, the weakest current from a Dubois-Reymond's induction apparatus that will slow the heart is ascertained, the current being carried to the nerve by Ludwig's electrodes.

Exp. III.—Cat; curare; artificial respiration; right vagus exposed on a silk ligature.

TIME, P.M.	PULSE.	PRESSURE.
	83	90
	Napellina, .01 gramme.	
4.47.0		
4.45.15	78	110
4.47.45	79	100
4.48.0	74	91
4.49.0	78	62
4.50.52	76	54
		Vagus irritated 5 seconds.
4.51.7	75	45
4.51.57	63	67
4.54.24	78	49
		Vagus irritated 20 seconds.
	Secondary coil at 10 millimetres.	
4.55.15	74	43
5.7.30	73	40
		Vagus irritated for 7 seconds.

Coil at 0.

5.7.45	70	38
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As is seen, the irritations of the trunks of the vagus at last become nearly powerless to reduce the heart-beat, even with the strongest currents.

Exp. IV.—Rabbit; left vagus prepared; Middendorff's needle in the third intercostal space, showing the pulsations of the heart.

TIME.	
9.15.15	Dubois' coil at 7 stops the heart.
	Napellina, .01 gramme.
9.18.15	Artificial respiration used.
9.20.00	Dubois' coil at 0 slows the heart.
9.20.45	Dubois' coil at 0 does not slow the heart.

Exp. V.—Cat; curare; artificial respiration; atropine; vagi paralyzed as tested by strong currents.

TIME, P.M.	PULSE.	PRESSURE.
	48	90
	Napellina, .01 gramme.	
12.56.15	53	91
12.56.30	50	86
12.58.0	45	85
12.59.45	46	82
1.4.15	47	74
1.4.45	47	70
	Napellina, .005 gramme.	
1.5.0	47	68
1.5.15	44	64
1.6.15	44	33
1.11.0	25	48
1.23.45	58	30

Delirium cordis observed here very markedly.

Exp. VI.—Rabbit; curare; artificial respiration; nicotine; vagi paralyzed.

TIME.	PULSE.	PRESSURE.
	67	103
	Napellina, .01 gramme.	
11.15.45	68	104
11.16.0	61	102
11.17.0	54	99

TIME.	PULSE.	PRESSURE.
11.18.25	50	87
11.18.40	42	83
11.19.27	40	65

It is evident from these experiments that the fall of pulse and pressure produced by napellina are not due to excitation of the cardio-inhibitory apparatus. To study the action of the poison on the heart itself it is necessary to separate that organ from its connections with the brain. To do this the vagi, depressors, and sympathetics are divided. The influence of the accelerators and the chief vaso-motor centre is abrogated by section of the spinal cord below the medulla, between the occiput and the atlas.

Exp. VII.—Cat; cord cut between occiput and atlas; artificial respiration; hemorrhage arrested by bovista; post-mortem showed complete section of cord.

TIME.	PULSE.	PRESSURE.
	65	50
	Napellina, .01 gramme.	
10.35.0	67	51
10.35.15	69	54
10.35.30	66	52
10.36.0	60	51
10.37.0	50	43
10.38.0	40	25

The repetition of this experiment gave exactly similar results, clearly demonstrating that the cause of the slowing of the pulse-rate is situated in the heart itself.

Action on the Vaso-Motor Centre.—The blood-pressure is regulated by the frequency of the cardiac contractions and the size of the capillaries. The governing vaso-motor centre in the brain may be irritated, either directly or indirectly, through a sensory nerve. Recognizing that lethal doses of this drug paralyze the sensory apparatus, I have made use of direct irritation by Ludwig's electrodes, which were screwed into the occiput and atlas. The sciatic nerve was also so prepared that by rolling the cradle of Pohl's commutator an induced current could be sent to the sciatic nerve and to the main vaso-motor centre at will.

Exp. VIII.—Cat; vagi divided; curare; artificial respiration; sciatic nerve prepared; Ludwig's gimlet electrodes screwed into atlas and occiput.

TIME, P.M.	PULSE.	PRESSURE.
	56	88
	Napellina, .005 gramme.	
5.25.15	43	80
5.25.30	45	84

TIME, P.M.	PULSE.	PRESSURE.
5.26.0	49	60
5.27.30	37	74

Sciatic nerve irritated 10 millimetres 5 seconds.

5.33.23	39	45
5.45.44	56	46
5.49.05	60	46

Centre irritated for 11 seconds.

Exp. IX.—Rabbit; vagi prepared and divided; artificial respiration; sciatic prepared; Ludwig's electrodes in atlas and occiput.

TIME.	PULSE.	PRESSURE.
	60	71
	Napellina, .01 gramme.	
2.45.15	60	67
2.45.30	59	65
2.45.45	57	61
2.46.20	49	51
2.46.45	35	49

Sciatic nerve irritated 5 seconds at 0.

2.47.0	33	89
2.48.45	35	37

Sciatic nerve irritated at 0 for 2 seconds.

2.49.0	33	32
2.49.30	35	29
2.50.30	45	21

Vaso-motor centre at 0 irritated 15 secs.

2.51.45	32	19
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It is observed from these experiments that the centre is paralyzed both to indirect and to direct irritation. Boehm and Wartmann have observed a similar effect from aconitin.

I have also made a few experiments in regard to the antagonism between napellina and digitalis on the hearts of rabbits and cats. I used infusion of digitalis.

I found that ten times the usual fatal dose of napellina was necessary after the administration of digitalis to cause death. It was also shown by experiments with the manometer that after the administration of digitalis enormous doses of napellina were unable to arrest the heart in diastole. I also observed in twenty experiments that when the heart of a frog was immersed in a solution of napellina (1 c.c. = .01 gramme) the viscus was nearly paralyzed. If now it was placed in the infusion of digitalis, it commenced to beat. So that in napellina-poisoning digitalis is the antidote *par excellence*. The only instances of the employment of digitalis as the antidote in cases of aconite-poisoning in men which I am able to find are rather wanting in complete history. The first case was where,

after the ingestion of an ounce of Fleming's tincture of the root, twenty minims of the digitalis tincture produced a recovery. The second case was that of a druggist, who was temporarily relieved by the administration of the tincture of digitalis. The antagonistic power of digitalis to aconitia was observed by Boehm and Wartmann. Fothergill also speaks of it.

The fall of pulse and pressure produced by napellina has its origin primarily in the heart itself, for the vaso-motor centre at the first stadium of the poisoning is not affected, although it becomes an important element in the last stadium. It is also obvious that the fall of the pulse is due to an increasing paralyzing effect of the drug on the cardiac ganglia, from the invariable paralysis of the heart in warm-blooded animals. Now, in my experiments on the striated muscles it was clearly demonstrated that the tissue is little if at all affected: hence it must be concluded by analogy that the muscular tissue of the heart is not affected, but that its nervous apparatus is. Napellina affects the heart-beat and arterial tension by an action on the nervous system of the heart, excepting the action of the drug in the last stages on the vaso-motor centre. The *quæstio vexata* is how to explain the paroxysmal variations of pulse and pressure which are common to napellina, aconitia, and lycoctonia. The action of the latter has been investigated by Ott. Various attempts have been made to discover the proximate cause. Heidenhain concludes that there is first an excitation of the cardio-inhibitory ganglia, and then a stimulation of the cardio-motor, and thus, as they alternate, arrhythmia is produced. Boehm and Wartmann, in experimenting with aconitia, referred the delirium cordis to the cardio-inhibitory apparatus. Mr. Lewin attempts to explain the want of rhythm by supposing that there is an unequal division of the poison in the blood, and that by its action taking place at different times and in unequal strength upon the various intra-cardiac ganglia it produces the arrhythmia. Now, it has been shown from the researches of Hyatt that the frog's heart has no blood-vessels, and, as the same arrhythmia occurs in the heart of that animal as in that of warm-blooded animals, it must be inferred that the vascular system has no rôle to play in the delirium cordis. Neither can the theory of Heidenhain be accepted, because in

the poisoning of napellina there is a constantly falling pressure, and the element of high pressure is wanting to produce cardio-inhibitory excitation. When the delirium of the heart arises, atropia has no power to restore that viscus to its original rhythm. Köhler, in speaking of the arrhythmical movements of the heart, and his very able experiments with saponine and other drugs, thinks that the arrhythmia may be due to incomplete systole, that is, that the ventricle may be a quarter or half full when it contracts. This incompleteness may be due to exhaustion of the cardio-motor centres, and when they have become rested in diastole they cause the heart to contract with full force and raise the blood-pressure. Whilst this explanation may be true, it seems to us that the researches of Professor Bowditch, of Harvard, made at Leipsic, on the peculiar irritability of the heart, are destined to solve the problem. Luciani, Kronecker, and Dr. Sterling, of Edinburgh,* have continued his work, and discovered facts which give us a clue to the right explanation.

(To be continued.)

SPONTANEOUS CURE OF GOITRE, FOLLOWING AN ATTACK OF TYPHOID FEVER.

BY LOUIS STARR, M.D.,
Physician to the Episcopal Hospital.

ELIZABETH —, æt. 36 years, was admitted to the Episcopal Hospital on October 16, 1877, suffering with the initial symptoms of typhoid fever and affected with a goitre of considerable size. She was born in Baden, whence she emigrated to Philadelphia in 1868. While in her native country her occupation was that of a field-laborer; but since coming to this city she had been engaged chiefly in housework. No history of hereditary disease could be elicited, and she affirmed that the locality of her birth and residence in Baden was healthy, and that none of the members of her family nor any of her neighbors were goitrous. The goitre made its appearance in 1867, two weeks after her first labor, which was prolonged and difficult, and was at first noticeable merely as a slight enlargement of the right side of the neck. It gave rise to no inconvenience and increased but little in size until 1874, when she had another difficult labor. After this the growth was more rapid, and she began to experience some dyspnoea, with slight, dry cough and tickling in the throat; these symptoms were

* Journal of Anatomy and Physiology, May, 1875.

most marked after any exposure to wet and cold: at such times, too, there were tense pains in the tumor and a temporary increase in its dimensions. When admitted to the hospital, the goitre was perfectly symmetrical in shape, the whole of the thyroid body being involved; it was quite large, partly concealing the larynx, overlapping the upper portion of the sternum, and extending, in the median line, more than three inches from the surface of the neck; to the touch it felt firm and somewhat elastic, and the skin covering it was normal in color. The heart was healthy, and there was no protrusion of the eyeballs. Very little notice, however, was taken of the goitre at the time, the attention being fixed upon and the treatment directed solely to the typhoid fever. The latter proved to be mild in type, and progressed favorably until November 2, eighteen days after admission, when there was a moderate accession of fever, followed by the symptoms of inflammation of the right parotid gland. This terminated by resolution, the swelling, redness, and pain entirely disappearing by November 12, and one week later the patient was able to leave her bed. On November 22, complaints were made of throbbing pain in the goitre, and there was tenderness on pressure, especially at the centre of the tumor, where there was a circular spot of redness and slight swelling, an inch in diameter. The pain continued, and the local redness and swelling extended from day to day, indicating the formation of an abscess; at the same time there was a decided decrease in the size of the growth, the diminution being more perceptible at the sides than in the median line. On November 30, the area of redness measured nearly two inches in diameter, fluctuation could be readily detected, and the bronchocele had diminished one-third in size, lost its semicircular outline, and become conical in shape, the apex of the cone being formed by the centre of the abscess. The abscess broke on December 8, discharging about one ounce of healthy pus, and the pain disappeared rapidly. For the next two weeks there was a free discharge of purulent matter, and a slow but steady decrease in the size of the tumor. The patient left the hospital on December 27. When she returned to report, January 5, 1878, there was an ulcer as large as a nickel penny at the point where the abscess had ruptured, the redness had almost disappeared, the discharge was less abundant and more serous in character, and the goitre was reduced to a mass three inches in transverse and a little more than an inch in vertical and antero-posterior diameters, situated over the trachea and causing no inconvenience; the sides of the neck were natural in appearance. On February 18, when seen for the last time, the ulcer had entirely healed, the newly-formed skin being dusky red in color, and all that remained of the tumor was a trifling indura-

tion of the tissue, situated immediately beneath the position of former ulceration. The patient's general condition was satisfactory in every respect.

Remarks.—Bearing in mind the accepted etiology of goitre, the well-known liability of patients to err in relation to the healthfulness of the localities in which they reside, and the tendency of those who are uneducated to attribute their ailments to other marked events of their lives, it seems more rational to regard the association of goitre with difficult labor, in the present case, as a coincidence, than to look upon it in the light of cause and effect; though it sometimes happens that enlargement of the thyroid body occurs during pregnancy quite independently of the existence of the conditions usually mentioned as favorable to the production of goitre. The formation of an abscess in the tumor after the resolution of the parotids must be considered as an accidental sequel of the typhoid fever, although it may have been indirectly dependent upon the latter.

The most interesting feature of the case was the gradual decrease in size and the subsequent disappearance of the bronchocele, caused by suppuration taking place in its substance, the method of cure resembling that which is occasionally established artificially by the introduction of setons.

A CASE OF PECULIAR POISONING BY CYANIDE OF POTASSIUM.

BY GEO. F. SOWERS, M.D.

I WAS called, March 27, 1878, to see J. P., photographer, and elicited the following history. For some days he has been working with potassium cyanidum, both in substance and in solution, the drug being used in the course of his business. On the previous Monday he commenced to complain of soreness of the scalp over both *parietal regions*; heaviness of head; sleeplessness; pain in the lumbar region; some muttering delirium (which afterwards became more active, the patient evincing a desire to walk around); ringing in the ears; swelling of the *upper* eyelids; loss of appetite; some nausea; bowels obstinately constipated, although when unexposed to the influences of the cyanide he has from two or four evacuations per day; on waking from *cat-naps* has a chill, which in fact awakes him before he can get soundly asleep; this is followed by a *very slight sweat*; he is short of breath during these attacks from the cyanide. On examination, the pulse runs about 78, slow and full; the skin is cool;

pressure on the top of the head and back of neck is painful; sensibility of skin over body is fair. On examining the eye the pupil is found, in a great degree, unresponsive to light; the face is dull, slightly flushed, and expressionless,—the tendency being to close the eyes; the tongue has a peculiar darkish background, seen through the heavy white coating; the teeth, gums, and lips covered with sordes; the breath extremely fetid; the lungs and heart in good condition; no cough; abdomen tender on pressure; no spots on the abdomen or lateral aspect of the body; he has not been exposed to miasma, nor to the effects of bad drainage; is of temperate habit. The diagnosis arrived at was congestion of the brain, induced probably by exposure to the cyanide, with probably some constitutional effects from the drug,—the system being in a general state of malaise. I arrived at this conclusion from the fact that he is entirely free from these spells except when exposed to the influences of the drug in question; it would seem also to produce the obstinate constipation: when unexposed there is no tendency to constipation. On the contrary, according to the patient's statement, verified by that of the family, there is unusual looseness of the bowels, from two to four passages per diem being the rule. The patient, previous to my being called in, had taken a dose of "mandrake pills:" these, however, failed to produce the slightest action. The treatment pursued consisted in a blister to the posterior cervical region, for its revulsive effect; for the sleeplessness a mixture of chloral, bromide of potassium, and morphia was given. For the constipation a pill containing quinia, croton oil, strychnia, and podophyllin was ordered every six hours until effective. Diet to be light and of easy digestion.

March 28.—The head is clear; less pain in the head; eye clearer and more responsive to light; still has ringing in the ears; tongue is slightly cleaner; tenderness of the abdomen not so marked; pulse 70-72, full and slow; skin cool; urine heavy with brickdust deposits; on testing it no albumen is found. The patient slept some during the night, but was somewhat delirious, evincing a tendency to walk around, to mutter, etc. Although the bowels opened slightly, giving passage to a very scant amount of feces, of an extremely dark-green color, the constipation may be still said to exist, and for this are ordered pills similar to but stronger than those previously given,—one to be taken during the afternoon, the other, if the bowels have not opened, at bedtime.

March 30.—To-day the patient is much better; the brain is clear, and the head free from pain or soreness; eye clear and bright; no ringing in the ears; no delirium; he has slept some this morning; the tongue is still heavily coated, but is of better color; appetite fair; skin warmer; pulse about normal. The pill,

although ordered to be given during the afternoon, was not administered till 7 P.M. In half an hour profuse catharsis set in, which lasted off and on till about 8 A.M., when it ceased gradually. He was seen at 10 A.M., and nothing was ordered but quiet, low diet, and a slight amount of brandy. No opium was given, as the patient is of gross habit, and I deemed it better to leave the bowels soluble as possible, in order not to risk an apoplectic seizure, which seemed to be threatened early in the case. I may add that my patient has informed me that he has a friend in the same business as himself who is likewise liable to these seizures after working with the cyanide. If any gentleman can make suggestions, I should like to have them.

TRANSLATIONS.

DIARRHŒA OF INFANTS.—Dr. René Blache (*Bull. Gén. de Thérap.*, 1878, p. 89; from *Jour. de Thérap.*) urges that whenever diarrhœa occurs in young infants it should be checked immediately and not allowed to make headway. The medicine he employs is the same in every case, though modified somewhat according to circumstances. In order to prepare for this, diminution of the ordinary diet is directed, and appropriate enemata after each passage, with cataplasms to the abdomen. Then every morning a small teaspoonful of an emulsion made of equal parts ol. ricini and syr. acaciæ is given, and repeated every day for three, four, or five days. For infants under six months, ℥j ol. ricini is enough; from six months to two years, ℥ss to 3j. If after a day or two the stools improve, the dose is maintained, but if they are still fetid and glairy, an equal dose may be given in the evening as well as in the morning. When the passages are very frequent, one to three drops of laudanum may be added in the course of twenty-four hours. M. Blache thinks enemata very important. A large enema of infusion of chamomile may be given at the outset, followed by a smaller one of starch, twenty minutes later. x.

IODHYDRIC ETHER (*Le Progrès Médical*, 1878, p. 139).—This combination of iodine and alcohol, sometimes also called iodide of ethyl, has recently been suggested as a means of administering iodine internally. It is made as follows. Ten parts of red phosphorus, eighty parts of iodine, and one hundred and twenty parts of 95° alcohol are taken. The alcohol and phos-

phorus are placed in a tubulated retort communicating directly with a long-necked receiver; the retort is placed on a sand bath, one-half of the iodine is added, and, when the heat and vapor thereby generated have passed off, the second half. The mixture is now gently heated, and the iodhydric ether passes over into the receiver. It is usually colored yellow, and must be rectified by a second distillation, when it is a colorless fluid of considerable density, 1.97 French scale, slightly volatile or inflammable, and boiling at 149°. It is thus quite different from ordinary ether. It is very easily decomposed, and is incompatible with a great number of substances. It is very rich in iodine, one gramme containing 80 centigrammes of this element. It may be administered in a dilute alcoholic liquid or in capsules. It has been recommended also as an inhalation in phthisis. x.

BROMHYDRIC ACID IN TINNITUS AURIVM FROM QUININE, ETC.—This acid affords an excellent means of stopping that ringing of the ears which is often such a disagreeable accompaniment to the ingestion of quinine. It also exercises a not less favorable influence upon other noises, particularly those of a pulsatile character, which give, for example, the sensation of hammering. If vertigo is present, the bromhydric acid neutralizes that also. The dose is fifteen drops in a little water every fifteen minutes. —*Presse Méd.-Chir. de Pesth; Bull. Gén. de Thérap.*, 1878, p. 93. x.

ESMARCH'S BANDAGE IN THE TREATMENT OF ANEURISM.—Dr. Waquet (*Thèse de Paris*, 1876, No. 380) concludes as follows: 1. Elastic compression has been employed in external aneurisms seven times, with six successes, of which five were in the popliteal and one in the femoral artery. It could be employed with the same advantage on aneurisms of other members. 2. The mean period of its application has been one hour. 3. When it was discontinued, mechanical or digital compression replaced it, in order to prevent the blood-current from acting too violently upon the recently-formed clot. 4. No accident imputable to compression has occurred. 5. Up to the present time this method of treating external aneurisms has given the best results. —*Bull. Gén. de Thérap.*, 1878, p. 95. x.

TREATMENT OF URETHRAL NEUROPATHY.—Dr. Bron (*Jour. des Sci. Méd.*, 1878,

p. 95) thus designates those vague symptoms complained of by patients who have suffered from gonorrhœa after all discharge has ceased. These are lassitude in the loins, weight in the hypogastric region, painful and strange sensations in the urethra, extension of the malaise to the digestive organs, etc. Of course all these symptoms are not found associated in a single individual, but they are found isolated or several together. Instead of the varied medication heretofore recommended in these cases, Dr. Bron urges the simple employment of the sound as being quite sufficient. A soft bougie of small size is introduced every second day and left in place for a few moments. At each sitting the size of the instrument is slightly increased. At the end of a very short series of sittings the most rebellious neuropathies sometimes disappear, as if by magic, after having resisted the most varied medication previously. x.

ARSENIC AND ITS PREPARATIONS IN THE TREATMENT OF SKIN DISEASES.—Molinari, in an article on this subject (*Gaz. Med. Ital.-Lomb.*, March, 1877; *Four. des Sci. Méd.*, 1878, p. 100), concludes as follows: 1. Arsenical preparations should be administered at first in small doses, which are to be increased gradually, their effect being carefully watched. At the first sign of disturbance, as loss of appetite, pain in stomach, dryness of the mouth, swelling of the eyes or nose, or difficulty in urination, the medicine should be suspended, but renewed again when these disappear. 2. A saline purgative, as sulphate of sodium, should be taken before the beginning of the treatment and at its close. 3. Arsenic should not be given after, but before, meals: it is better tolerated under these circumstances, and is more quickly absorbed. Acids should not be taken by the patient, and alcoholic drinks only rarely. The treatment should last from one month to six weeks. 4. External means, as ointments, etc., should be added to the arsenical treatment. 5. In eczematous affections, where the kidneys are involved, some diuretic, as the acetate of potassium, may be added to the arsenic, but not substituted for it. x.

THE *Medical Times and Gazette* says that Professor Sée, of Paris, has found a relief from asthma in inhalations of the iodide of ethyl.—*Boston Med. and Surg. Jour.*

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 27, 1878.

EDITORIAL.

THE NEW HOSPITAL FOR THE
INSANE.

IN the article under this head in our last issue we charged the Board of Public Charities with a flagrant betrayal of trust in that it did not use the power bestowed upon it by the act that created the hospital to prevent the dismemberment of the plan first adopted by the Commission. The *Bulletin*, in a notice of the article, complains that the charge is unfounded, because the Board, it says, "are to give their consent to any essential change affecting the general character of the plans." The language of the act is, "no changes shall be made in the same (plan) so as to materially affect its general character without the consent of the Governor and the Board of Public Charities." We are perfectly willing to leave it to the reader to decide whether leaving out the administration building, the section for excited women, the workshops, and the roofs of the connecting corridors is not such a change as materially to affect the general character of the plan. Hamlet with Hamlet left out, and yet no change!

The *Bulletin* also says, with an air of superior shrewdness, that there are other mistakes besides those we mentioned, which we have not found out. We admit the fact, but protest against the implication of stupidity or lack of knowledge. To have discussed all the mistakes made by the Commission and the Board of Public Charities would have swelled our article beyond all reasonable proportions. We think we exposed enough to warrant our statement that this new beneficent enter-

prise had been brought to a "lame and impotent conclusion."

Dr. Morton, in his communication, supposes that he has convicted us of several errors; but we cannot see that any one of the statements to which he objects—certainly no one of much consequence—is proved to be incorrect. On the contrary, some of them, and those of the most importance, are confirmed by his own admissions. The delinquencies of the Commission he sets forth in a stronger light than we did. In two or three instances he misapprehends entirely the points we made. He speaks of the requirement that the plan should not be changed without the consent of the Board of Public Charities in such a way as to give the impression that we had expressed dissatisfaction with it. Our complaint was that the Board, having this restraining power, did not exercise it, and thus prevent a course that must end in increased cost and an imperfect result. Again, he says we pronounced it "impossible" to build such a hospital at the rate of \$800 per patient. If he will look at our article carefully he will see that we did not say this. What we did say was that the cost fixed upon was one of "unprecedented cheapness, and could be accomplished, if at all, only by means of the most honest, careful, and skilful management." Surely Dr. Morton does not doubt the correctness of this assertion. He cannot desire any more fervently than we do that the new hospital should prove a model of cheapness; and it is because the course adopted by the Commission will certainly raise the cost far beyond the appropriation that we entered our protest against it.

In regard to some other points to which the doctor takes exception, we need only say that they are of minor importance, with one exception, and may as well be left to the judgment of the reader. The exception we refer to is the novelty in insane-hospital architecture of placing the different sections at remote distances from one another.

SUBJECT-CATALOGUE OF THE
NATIONAL LIBRARY.

THERE is scarcely any subject at present looming up on the professional horizon of the same importance to the world in general with the publication of the subject-catalogue of the National Medical Library. Of the value of the work, of the enormous amount of labor already expended, of the uplift which its publication would give to medical science both in this country and in Europe, it were superfluous to speak at present. The universal verdict has been pronounced too fully, too loudly, and too unanimously to require anything more to be said. The duty of the hour is to watch Congress and to insist upon the making of the necessary appropriations.

In the estimates of the Secretary of the Treasury at the opening of the session of Congress is (p. 160) the item, "Printing and binding catalogue of the library of the Surgeon-General's office, 3000 copies of volumes one and two, including stereotyping, \$25,000." This item is now before the Appropriation Committee of the House of Representatives, and appears to be encountering much apathy and some active opposition. The total cost of publication will reach, it is believed, \$100,000, to be spread over four years. This seems at first sight a large sum; but when it is compared either with the result to be achieved, or with the resources or the habitual expenditures of the government, it becomes trifling. It is not so much beyond that which an investigating committee will throw away perhaps on a wrong scent. It does not equal the amount frequently piled into a hopelessly ugly mass of stone in a second-rate post-office of a town; indeed, it is scarcely sufficient to pay the difference between some such buildings and equally commodious brick structures. It is not much more than is necessary to raise, equip, and drill a single company of cavalry.

It seems impossible that such men of culture as Mr. Hiester Clymer and Mr. A. H. Smith of this State—to say nothing of distant Representatives—can fail to grasp the situation, and catch at least a glimpse of the real importance of this subject, although it be less tangible than granite and marble, cavalrymen and horses.

EVERY once in a while we are compelled to chronicle the fall of another medical stronghold before the assaults of the women doctors. The last battle-field has been our Obstetrical Society; but the results of the conflict are not yet plainly apparent.

It seems at first sight a little glaring that the female physicians, the necessity for whose existence is the asserted impropriety and indelicacy of male attendance upon the conditions and diseases peculiar to women, should strive to enter as members a society like the Obstetrical, whose end and aim is the perfection of male physicians for such duties,—their membership, if effected, of necessity implying a surrender of all such opinions and a hearty approval of the efforts of the male members to gain a deeper insight into this disputed specialty. Had a desperate effort been made to storm the camp, drive the male intruders off the field, and secure the time-honored Society, its charter, by-laws, and treasury, to themselves, it would have been more consistent. The friends of their admission, believing that the by-laws rendered women ineligible, offered an amendment inserting the word "female," which was, however, defeated. The opponents of their admission then proposed to insert the word "male," so that there could be in future no ambiguity or shadow of doubt; but this again was defeated; and, finally, on the proposal of the name of an eminent female practitioner of this city, she failed to be elected. The state of the case at present seems about this. A majority of the Society are in favor of not making women plainly eligible. A majority are in favor of not making males

alone plainly eligible. A majority are in favor of not admitting a female physician to membership whose ability is unquestioned and whose character is spotless. From the above let some skilful logician deduce the real opinion of the Society. We should say, if it were not rude, that the eminent body was still waiting and watching to see which way the wind blows, although hosts of straws have been driving in one direction for at least ten years.

DR. EDWARD BAYARD, at a meeting of the Homœopathic Medical Society of New York, March 8, asked for a reconsideration of the resolution concerning the foolishness of homœopathy which had been previously adopted, and of which we took note in the Notes and Queries column of our last issue. Dr. Bayard made a long speech, objecting, *inter alia*, to the resolution because it "goes far to confirm the charge" that "we were the ass in the lion's skin." The resolution was rescinded. The ass, betrayed by his bray, tried to recall it, but only afresh to show what an ass he was.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 24, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Recurrent carcinoma. Presented by Dr. RICHARD A. CLEEMANN.

THE morbid growth which I exhibit to-night is the third of a series removed at different times from the axilla of the same individual, a lady about 70 years of age, the primary and secondary ones having already been presented before the Society a year ago (January 11, 1877).

The initial one of these growths was first observed, as I stated on the former occasion, as a small "lump" in the axilla, some time during the spring of 1871. Having increased in size, and presenting the gross appearances of *epithelioma*, it was removed by excision, four years subsequently, April 2, 1875. The diagnosis of *epithelioma* was confirmed by your Committee on Morbid Growths, by

which it had been submitted to microscopic survey: my friend Dr. C. B. Nancrede, who made an examination of the base of the tumor, found the elements of *scirrhus*. A tedious convalescence, interrupted by sloughing of the cellular tissue adjacent to a part of the wound, followed; but eventually the patient was restored to a condition of excellent health.

A year after the excision a hard nodule began to show itself near the seat of the primary growth. This second morbid mass was taken away January 3, 1877, and, being submitted, like the first, to your Committee on Morbid Growths, was declared by it to present the characters of "a carcinomatous infiltration of a lymphatic gland, variety *scirrhus*." The convalescence from this operation was somewhat less prolonged than that following the first, and was complicated by an attack of superficial erysipelas, not invading the skin about the wound, but extending over other portions of the surface during a period of more than two weeks. In connection with this process, small collections of pus, healthy in appearance, formed under the edges of the wound, and a swelling of the cellular tissue in the most dependent part of the arm was observed, the latter remaining as an œdematous infiltration of the tissue after the erysipelas had run its course. After this complication, I noted in my case-book that the patient's skin had a waxy aspect, similar to what was formerly described as belonging to the "cancerous cachexia;" but this appearance no longer existed when good health was again established.

In the latter part of August, 1877, the patient, at that time in most excellent general health, became conscious of a new growth situated in the neighborhood from which the others had been removed. She consulted me two months subsequently, when the mass could be felt to be about the size of a small marble: it was situated high up in the axilla, immediately anterior to the scars left by the incisions made for the removal of the former growths. It was hard, of irregular contour, and closely attached to the skin above it. At the same time the cicatricial tissue itself was found to be adherent to the subjacent parts. The patient suffered occasionally from pain in the left arm, and had lately had a tingling sensation extending down the extremity to the little and ring fingers. The swelling before referred to as existing in the arm had never entirely disappeared. This, the third growth, lies before you, having been dissected away on November 17, 1877, since which time it has been preserved in alcohol. It was found to lie directly upon the subscapular artery, not far from its origin in the axillary. So close was it to the subscapular that Dr. Agnew, who performed the ablation, judged it best to throw a ligature about that vessel, fearing that its coats had

been damaged by the knife. The mass now resembles a small cluster of somewhat enlarged lymphatic glands attached to a portion of skin by indurated cellular tissue. Dr. Nancrede, who was good enough to examine it microscopically for me, has found the glandular part to possess the *carcinomatous* features of the immediately preceding growth (*scirrhus*), the skin to be normal, and evidences of inflammatory action in the connective tissue. The wound from this last operation has been healing kindly, with little suppuration, though the loss of tissue in the previous excisions has contributed to a slow contraction of its edges. It is now almost closed, but a short linear ulcer remaining. Save some constitutional disturbance immediately after the operation, the general health on this occasion has not been affected.

But the removal of the growth has not been followed by a disappearance of the occasional pain and tingling in the affected extremity, nor has the œdematous swelling vanished, while the development of a small, crack-like ulcer in a depression of the old cicatrix, the tissue about it being red, shiny, and "cushiony," is additional evidence of the remaining activity of the disease.

The clinical facts with which I have supplemented the brief description of the morbid anatomy of the above case have been introduced because they illustrate so forcibly the pathological question of the local nature of carcinomatous disease. Here is a delicate and aged lady who has suffered for seven long years from cancer, and yet is as strong now in her general health as when the disease first showed itself, seeming indeed to have escaped the full measure of senescence which is wont to accompany that lapse of time. Moreover, the complications in the convalescence from the first two operative procedures, while they brought her for a season to a condition of great prostration, went for nothing in urging on the march of the disease, if they did not positively, in their destruction of neighboring compromised tissue, rather stay its ravages.

The combined presence of epithelioma and scirrhus, with the recurrence of the latter alone, is worthy of notice. Following Virchow and those who believe that the cancer-cells may originate from other than epithelial cells, the pathologist may look upon one suspected irritant as producing here the two forms of carcinoma. Exerting its power on the epithelial layer of the skin, epithelioma was developed, but when it bore upon the connective tissue, scirrhus was the result. The more circumscribed nature of epithelioma made the entire ablation of its tainted cells practicable, and this form of disease did not recur. On the other hand, the infiltration of the elements of scirrhus, spreading more widely, had left some seed behind to bring forth its proper growth.

Dr. LONGSTRETH said, in every case when the metastatic formation of a tumor takes place, either after an operation for the removal of a new growth, or when no surgical interference has been made, the questions must arise, first, Is secondary growth the same, and does it always show the same histological characters, as the primary? and, secondly, What is the dependence, or connection, or relation, of one on the other?

In regard to the first question, it must be answered, certainly in the great majority of cases, in the affirmative. A careful study of microscopic sections from the respective growths shows such correspondence of the cells and their relations, that without doubt the secondary growth is placed in the same class and given the same name as its predecessor. In some cases, however, the similarity is not so close, and there does occur a diversity in respect to the structure of two new growths, which growths give the same reasons for belief that they bear the relation of parent and offspring, that we have in cases where similarity in structure exists. Under these circumstances, a subordinate question arises, whether these new formations do have such relationship, or whether we are dealing with an instance of two distinct varieties of malignancy occurring in the same patient, the two growths not, however, interdependent, but each growth separately developed in a distinct position and at different times. The possibility, nay, the certainty, of such distinct development must be admitted, although common experience turns our attention almost wholly to the question of metastasis.

It is probable, without, perhaps, entire definiteness of statement being possible in the matter, that a consideration of the different grounds or mother-beds in which the two growths respectively have their origin may help us to explain the variation in appearance presented by tumors metastatically related to each other and undoubtedly belonging to the same class. Such variations in appearance may be illustrated—although the illustration does not prove the point in question—by the microscopic results derived from the examination of newly-developed granulation-tissue, and of the same tissue in a state of luxuriant growth; or from what is seen in syphilitic growth before and after ulceration of the covering skin; or, to take an instance more nearly allied to the question in hand, the appearance of a newly-developed and growing sarcoma, and the condition presented by tumors of this class at a late stage of their growth. As a further illustration of the differences existing between the primary and the secondary metastatic growths, he would cite a case studied by Prof. Brodowski and reported in *Virchow's Archiv*, Bd. lxvii., in which was found melanotic sarcoma of the eye, with apparently carcinomatous tumors of the liver and kidney.

Besides the differences due to the dissimilarity of tissue in which the primary and secondary growths have their seat, for example, a tumor of the brain secondary to one of the mammary glands, the variations in appearance may, and undoubtedly do, result from mere difference in age and rapidity of growth. He did not think that scientific oncology is capable at the present time of furnishing us with sufficient data for the determination of these essential points.

The second question, viz., the dependence or connection of the metastatic offspring from the primary growth, leads to the consideration of the means by which this is effected. The two possible channels of communication are the blood- and lymph-circulations. Although these two means have long been pointed out, yet it is only within quite recent times that completely developed tumor-cells have been shown actually in transport by these roads, and actually free within the calibres of both these vessels. Let us leave to one side, for the present, the consideration of that as yet indefinite idea of the conveyance of germs by these means, which germs may or may not develop as a distinct growth. The separation of these two ideas is the separation of the question of local disease and of cachexia in malignant tumors. Accepting now the first of these two theories as the one definitely proved, viz., that, starting with the local growth of a tumor, we may have metastasis, or the development of secondary growths in other parts, through the bodily transport, in a developed form, of parts of such growth, the question arises, In what forms and at what parts does such secondary development occur?

The now common knowledge, backed by many careful observations, of these travelling masses of tumor in both the lymph- and the blood-track, leads us to study the development of metastatic growths in both of these situations. The possibility of the passage of cells through the walls of the vessels within the tumor, vascular walls that are no longer normal, seems to be acknowledged; the passage of the cell-elements into the lymph-vessels, along with the fluids or juices of the tumor, is well established. The masses, which can be called tumor-emboli, are carried along the blood-current until they find a suitable resting-place. This seat may be determined by their attachment or adhesion to the wall of a venous trunk, or by what is more likely to happen, their passage through a capillary network, which by its size filters out the little masses. The position, therefore, of their future growth depends somewhat on the relative disproportion in the size of the embolus and of the capillary vessel. Similar emboli are found in the lymph-capillaries.

The most frequent of metastases, and the one with which we are the most familiar, is the implanting of the tumor-growth on a

neighboring lymphatic gland. Here the infection of the gland likewise takes place through the direct transport of the cell-elements of the new growth. Here, too, sometimes, without doubt, we see changes effected in the typical histological appearances of the tumor-cells as a result of their implantation on glandular tissue.

In addition to these two modes of metastasis, in both of which the material transported for the growth of secondary formation is the developed cell, separated as such from the primary growth, there is at least another mode, which is a possible one, if not probable, by which the dissemination of diseased tissue-elements can be effected. Let us look at the circumstances under which the primary growth has its beginning. As the initial step there occurs at the seat of the disease a mal-growth of the nuclear bodies from which are derived the heteroplastic cells of the new formation, and which become the nuclei of the tumor-cells. The nuclear bodies are either the newly-deposited elements or the derivatives of cell-division of the tissue previously existing. In either case, according to theory, they originally existed as normal (white) corpuscular elements of the blood, and which, under local morbid influence, have had their developmental capacity so far altered that, instead of presenting the "fixed appearance" of health, we see, for example, an epithelial element becoming a carcinoma, or a connective-tissue element a sarcoma. Now, these normal blood-corpuscular elements possess the formative power of growing, in the one case, as supposed, epithelium, in the other case, connective tissue, but under local morbid influence develop into heteroplastic growths. We see, now, either one of two facts, either that only such corpuscular blood-elements find their way into a particular tissue, or that only such of these wandering bodies develop in the part with which they are in correspondence; all other wandering elements which may chance to find their way into, let us say, connective tissue, but which have not the power of developing into that tissue, are carried back by the lymph-vessels to the general circulation.

If we have, then, normal corpuscular elements which only find development in tissues to which they are histogenetically allied, the same rule of development must hold for the abnormal corpuscular elements, viz., the nuclei which are capable of growing tumor-cells. The abnormal elements, the undeveloped cells, the nuclei, which exist in abundance in the morbid growth, are free to move, and are liable to be, and are constantly, taken up by lymphatic agency, to be reconveyed into the general circulation. Such nuclear bodies can exist in the blood, and, from their similarity to the white blood-corpuscle, remain undetected. They must now be looked on as derivatives of a particular tissue, and as bodies

having impressed on them a morbid formative power; they too, like their prototypes the normal elements, seek their place of development in the tissue to which they are allied histogenetically.

This process, which Dr. L. had attempted to characterize, is, he wished distinctly to state again, something very different from that which has been alluded to in embolic metastasis of tumor-cells, and from the infection—the word is used without prejudice of meaning—of a neighboring lymphatic gland. The value of such an hypothesis for metastasis is to be found in cases where secondary formations occur, either in parts void of tissue histogenetically related to the new formation, or when the embolic method can be excluded from participation in the process. As an instance of the first may be cited an enchondroma of the lung, secondary to such a tumor of the testicle. An instance of the second would be with difficulty found, and with greater difficulty proved. This hypothesis is something very different from embolism: the one is growth within the tissues of an organ and in a particular tissue, the latter is growth at a fortuitous point within a blood-vessel.

According to the terms of the hypothesis, the metastatic formation of an epithelioid growth would take place in an epithelial structure: thus, an epithelial growth of the stomach, when it involves the liver in secondary formations of the same malignant character, chooses the liver-cells—cells which, if they are not truly epithelial in character, bear at least a close relationship to such tissue—as their point of development, rather than the connective tissue of the portal canals, etc. (excluding, of course, cases of metastasis between the two organs by embolism); whereas in sarcomata the point of development would be the connective-tissue parts of the organ. In Brodowski's case, already cited, the author speaks of the knots in the liver, metastatically related to the melanotic sarcoma of the eye, presenting the structure of so-called medullary carcinoma. (See *loc. cit.*, Pl. vi. Fig. 2.) In Fig. 3, Pl. vi., the drawing represents a connective-tissue tract bordered by areas of liver-cells; the connective tissue shows in its midst, or is replaced by, the melanotic sarcomatous formation, whilst the liver-cells, collected in clumps or masses surrounded by a very delicate stroma, exhibit the changes which the author considers as carcinomatous. The liver-cells undoubtedly show alterations, but he doubted if they represent or are to be considered as the part typical of the new formation in the organ; he doubted, too, if the delicate connective tissue enclosing them is to be regarded as a stroma of a glandular carcinoma. Much more likely is it that the stroma is but the extension inwards between the acini of the connective tissue of the portal canals, either

as a hyperplasia or as a malignant new formation, connected with the melanotic sarcoma distinctly developed in those canals. The condition of the liver-cells differs but little from, and is parallel to, that seen in cirrhosis of the organ. The relative changes of the two tissues—on the one hand the liver-cells first showing alterations from proximity to the irritative process present in the adjacent tissue, but finally being destroyed by the overgrowth and contraction of such tissue, and on the other hand the connective tissue becoming hyperplastic and tending constantly to invade the areas of the liver acini—are the same in that disease as we see here represented in the malignant growth. This explanation of the appearances of the liver in Brodowski's case—and the same is true of the kidney changes—affords a confirmation of this hypothesis.

Dr. L. mentioned that recurrence of tumors, in contradistinction to metastasis, has the same significance as the extension of the growth in its original formation and enlargement, and takes place by peripheral infiltration; although, in the removal of a tumor by surgical operation, the incision may be carried through apparently normal tissue, yet if recurrence takes place there is proof either that some of the surrounding part was involved, though invisibly, or that the morbid formative character was so impressed on the cells that they had become incapable of development in the normal type.

Recurrent epithelioma of neck. Presented by
Dr. C. B. NANCREDE.

Dr. NANCREDE said that he expected to show a specimen of such rarity as had never been presented during the more than twenty years' existence of this Society. As far as he knew, there were but three other such upon record, related by Sir James Paget in his classical work on Surgical Pathology, the accounts of which had been read at the previous meeting but one. Only two of these had been subjected to such thorough scrutiny as to leave no room for doubt. Unfortunately, like so many other "unique cases" and "original discoveries," this one, upon more rigid examination, had caused the "*châteaux en Espagne*" to vanish into thin air, and had left only an exceedingly commonplace specimen. Dr. Nancrede said that he trusted, however, this mistake would prove, as is so often the case, more instructive than any number of rare specimens. It may serve as an admirable commentary upon the remarks made in relation to the case just presented by Dr. Cleemann, and the one adverted to by Dr. Tyson. The examination of these specimens by competent gentlemen apparently resulted in most diverse opinions as to their nature. In Dr. Cleemann's case, the Committee on Morbid Growths examined only the skin, and found epithelioma, a fact that it gave Dr. Nancrede

great pleasure to corroborate by his own examination of their sections. But upon examination of the deeper tissues, Dr. N. found true carcinoma. Dr. Tyson examines the portion of the growth sent to him, and finds nothing but adipose tissue, while the real morbid growth is sent to another gentleman, who of course discovers its true nature, because he has the real growth, while Dr. Tyson had nothing but the subcutaneous tissue to examine. In the last case, Dr. Nancrede again confirmed the accuracy of the Committee's report upon the *section they examined*, in which he could discover nothing but of a fibro-cellular nature. When Dr. Simes told him that the specimen before the Society this evening was a most beautiful specimen of epithelioma, he was driven to one of two conclusions, viz., that the Committee, whose section he had not then seen, had made a mistake, or that he was on the eve of a most important pathological discovery, which was that *epithelioma* and so-called *fibrous cancer* were interchangeable. He naturally proceeded to re-examine the first growth. Taking the portion left imbedded by your Committee, and, after levelling the surface, removing a thickness of perhaps a sixteenth of an inch, he made three sections, all of which, to his astonishment, were typical specimens of epithelial cancer. Here two strokes of the knife would have prevented any mistake in the original examination.

Dr. NANCREDE then read the following notes of the case:

For the history of the first growth I must refer to the notes presented with it on the evening of September 27, 1877. The specimen before the Society was removed, January 2, 1878, from John McB., æt. 48 years, by trade a dyer. It consists of the contents of nearly the whole anterior superior carotid triangle, the large wound resulting from which, coaptated by hare-lip pins and sutures, has united well, except at its central portion, where skin was wanting for its complete closure. McB. states that the wound healed in about three weeks,—my term of hospital service having elapsed before his complete convalescence,—leaving, however, a suspicious tubercle at the spot originally left open for drainage. This nodule became painful and commenced to grow rapidly some three weeks after complete healing had occurred. After three weeks of rapid increase it apparently ceased to grow, at least superficially, remaining in the same state from the beginning of December until the 27th of the same month, when I first saw him. The growth was then about the size of an English walnut, with the surrounding tissues somewhat infiltrated, and firmly adherent to the old section of the lower jaw. It also was so firmly attached to the hyoid bone and thyro-hyoid membrane as to give considerable trouble in its removal, in which I was kindly assisted by

my friends and colleagues Drs. Henry, Simes, and H. Reed.

Uterine growths. Presented by Dr. J. E. SKRIDGE.

For the specimen and following history of the case I am indebted to Dr. P. B. Breinig, of Bethlehem, Pennsylvania, who writes, "The patient, a lady 45 years old, living in Berks County, Pennsylvania, noticed, about ten years ago, that her menses were very free, and that five years later the discharge was so great as to constitute menorrhagia. Two years ago she observed a hard tumor forming in the left side, low down, since which time more or less menorrhagia, with contractile pains, has existed. By measurement with the sound, the uterus is found to be five and a quarter inches. There was found within the body of the uterus a roughness, which bled profusely when touched by the sound. The operation of scraping the cavity was performed, and about a tablespoonful of tissue, such as the specimen sent, was removed. There was but little hemorrhage: liq. ferri subsulph. was applied, and when I left the patient rested comfortably. Upon the left side of the uterus there is a fibroid tumor the size of half a foetal head. There is no apparent cancerous cachexia."

Report of the Committee on Morbid Growths.—"The specimen presented by Dr. Eskridge, and referred for examination to the Committee on Morbid Growths, is seen to consist of numerous cysts lined with epithelial cells, and of bands of fibrillar connective tissue covered with epithelial cells, forming papillæ. The intercellular fibrous tissue between the cysts, and that forming the papillæ, is permeated by numerous dilated capillary blood-vessels, which at some places have ruptured, causing an extravasation of blood between the fibres. There is also an infiltration of large oval or round granular cells, containing large nuclei, in which are seen two or three large nucleoli. Other cells, somewhat smaller, spindle-shaped, and nucleated, are found, with many embryonic cells. The specimen from which the examination was made being only a scraping from the mucous membrane of the uterus, it was not possible to ascertain with certainty the exact nature of the new formation; but from the arrangement and structure, as above described, we are inclined to consider it a cystic papillary adenoma.

"February 14, 1878."

REVIEWS AND BOOK NOTICES.

JOHNSON'S NEW UNIVERSAL CYCLOPÆDIA.
Vols. II., III., and IV.

In looking over the medical articles contained in these volumes, we find them, as a rule, reasonably complete, but well condensed, and bearing the marks of careful and intelligent revision. There are few omissions, and

the relative importance of the subjects as compared with one another seems to have been recognized and preserved with excellent judgment in the allotment of space. The professional reader, and probably many of the laity, might very properly ask, however, why, if only one page and a half could be spared for "Fever," less than a page for "Fracture," and a few lines for "Pathology," it was found possible to devote fourteen pages to a consideration of the "Flexure of Beams," twelve pages to the subject of "Foundation," and six or seven pages to "Pumps." This disproportion in favor of the articles on mechanics and civil engineering is frequently observable; and the same preponderance is generally given to the biographies of obscure divines and expounders of the gospel, at the apparent expense of many who might seem to the impartial reader as more worthy of special mention. It would be difficult to assign a satisfactory reason for dismissing the names of Dr. Physick, Dr. Valentine Mott, Dr. Nathan R. Smith, Dr. S. D. Gross, and others who have attained a similar rank in our profession, with the merest outline of their lives and works, while on an adjoining page may be found a circumstantial account of the nursing, weaning, and raising of some unknown and forgotten theological controversialist. We are consoled for some of these deficiencies, however, by turning to the articles on "Histology," by Dr. Woodward; on "Syphilis," by Dr. Otis; on "Osteology," by Prof. Cope, and to many others, which are as elaborate, as instructive, and as comprehensive as could possibly be desired. There is probably no other work of this character which contains so much information in regard to the special and collateral branches of medicine; certainly none in which the articles on these subjects so well represent the most recent views and developments of the science. Its merits can hardly be appreciated until, after frequent failure in other works of reference, you have met with almost uniform success in consulting it, or until a few odd hours have been spent in turning over its pages and noting the entertaining character of many of its articles and the distinguished names which are appended to them.

It fills a niche in the library hitherto unoccupied, and meets a want long felt, but until now unsatisfied.

J. W. W.

PUBLIC HYGIENE IN AMERICA. By HENRY L. BOWDITCH, M.D. Boston, Little, Brown & Co., 1877.

We cannot but hope that the wide circulation of this book will awake a feeling of shame at our shortcomings which may lead to great results. The title is rather a misnomer: it might at least with equal propriety have been termed "Want of Hygiene in America." Still, the excellent work done by Dr. Bowditch and a few others deserves all the more praise, and already its results are beginning to be

felt among people at large, certainly in the medical profession, where a higher education now includes hygiene among the subjects of study, and we trust in time, after popular education has progressed a little and medical men have continued and increased in their efforts to force the subject into notice, that legislative bodies will at last be induced to pass laws of practical value on the subject. The address of Dr. Bowditch, with which the volume opens, will be found extremely interesting and suggestive.

PNEUMONO-DYNAMICS. By G. M. GARLAND, M.D., Assistant in Physiology, Medical Department, Harvard. New York, Hurd & Houghton; Boston, H. O. Houghton & Co.; Cambridge, The Riverside Press, 1878.

To one who is satisfied with facts and cares nothing for the reason of facts, the work of Dr. Garland will not possess any peculiar interest; but as an example of intelligent experiment begun to obtain an answer to a definite question, or, as Dr. Garland himself says, "to interpret the handwriting on the wall," it is extremely satisfactory.

The question to be answered was, Why is the line of dullness in pleuritic effusion not a horizontal line? Does any one doubt the value of physiological experiment, we have here an irrefutable answer. We have here the greatest light thrown upon a common and dangerous condition,—a light, we are sure, quite unexpected to many, which will clear up the mists of doubt surrounding the question, and tend inevitably to alter our therapeutic and operative procedures. The author, having satisfied himself first as to the nature of the curved line of dullness, and confirmed the views of Dr. Ellis, of Boston, proceeded, by injecting the pleural cavities of dogs with various substances, to obtain casts, by their solidification, which would show the shape of pleural effusions. The substances employed in injections were glue, plaster, and cocoa butter, and the casts were obtained under various circumstances and conditions. Having proved, first, that external observation confirmed the S curve of dullness, second, that effusions artificially introduced produced on percussion the same curve, he then, extracting the casts, found them to coincide with the S curve, and to possess certain peculiar features in common, not to be readily explained on the ordinary view that effusions compress the lung and that dullness is produced by a layer of fluid between the chest-wall and the lung. Here again experiment, carefully and ingeniously conceived and executed, and described in plain and graphic language, cleared up the whole matter. The reader is convinced of the falsity of the old view. Perhaps the whole thing could have been explained by pure reasoning long ago; but it was not, and actual facts, solid facts, in plaster of Paris and oleum theobromæ, are

far more stubborn things than the ever-shifting language of theory.

The ultimate results of this discovery—for it is a discovery—have been sought out by Dr. Garland as far as time and space permitted. The chapters on "Diagnostic Importance of the Ellis Curve," the "Interpretation of Various Physical Phenomena of Pleurisy," the "Absorption of Pleural Effusions," are peculiarly valuable and suggestive. Viewed in the light of Dr. Garland's results, old facts assume a new appearance, old explanations hurry away into obscurity, and the thoracic walls seem almost crystalline in the clearer light with which the mind's eye gazes into their recesses. Diagnostic points are deduced—by logic which we cannot evade—of the greatest importance. A perusal of chapter vi. will show how completely the author differs from modern teaching, and we cannot show that difference better than the author does, when he says "that the lung lifts the fluid as it contracts. . . This idea forms the *pith* of my essay."

E. W. W.

ATLAS OF ILLUSTRATION OF PATHOLOGY.
Compiled chiefly from Original Sources for the New Sydenham Society. Fasciculus I., Diseases of the Kidney. Plates I. to IV.

How many parts are to form the whole of the Atlas whose first fasciculus lies on our table, we do not know, but we are promised one a year for some time to come, and the arrangements will probably be such that the work may be completed at almost any time, so soon as it seems not to pay. Thus the second fasciculus, which is to appear during the current year, will form with the present one a complete illustration of kidney disease.

The plates of Fasciculus I. are very beautiful,—if the word can be applied to the bright and faithful portraiture of a hideous object. There has been no sparing of labor, expense, or color: indeed, the last commodity is seemingly over-abundant, for if there be any fault with the figures it is towards color-exaggeration. According to our thinking, it would have been wiser to spend the money here lavished upon chromo-lithography upon high science. Likely enough, however, the subscribers to the Sydenham Society are many of them more artistically inclined than we are. Such will be well pleased with this fasciculus, which well fulfils what it starts out to be,—a choice gallery of pathological beauties.

HANDBOOK OF THE PRACTICE OF MEDICINE.
By M. CHARTERIS, M.D. Philadelphia, Lindsay & Blakiston, 1878.

The idea of compiling this handbook, the author tells us, was suggested by his own experience. He has tried to render it "handy," and it is handy,—i.e., small in size, and in good, clear type; its language is good; intricate and disputed questions are carefully and

skilfully avoided, and for the student anxious to try his hand at early experiment upon his fellow-beings it is probably as safe as any. For the practitioner it is scarcely to be recommended, though a perusal occasionally of its outline sketches might serve to freshen up forgotten points. In a hasty perusal we found nothing to object to, unless it be the omission of many things which seemed to us important. The difficulty, however, of reducing medical practice to such a small compass without important sacrifices is so obvious as to excuse everything except the attempt itself.

GLEANINGS FROM EXCHANGES.

DEATHS FROM ETHER—CAUSE (*The British Medical Journal*, March 2, 1878).—Mr. C. Dawson, after calling attention to the fact that in the last ten years one hundred and fifty-one deaths from anæsthetics have been reported in the *Lancet*, *British Medical Journal*, and *Medical Times and Gazette*, proceeds to analyze thirteen of these cases, in which ether was the anæsthetic, together with five others reported by American journals and occurring in this country; and the results are so interesting and important that they are given *in extenso*. Nine of the eighteen deaths were explained by various complications, such as previous pulmonary trouble, the entrance of food into the larynx, etc.; but in the other nine ether seemed to play no secondary part, nor even to be assisted by any untoward condition or circumstance.

The important facts connected with these cases are,—

1. Ether was inhaled in various yet limited quantities, from three inhalations of it up to as many as would consume half a pound on a towel; and then produced the symptoms ending in death. It was diluted with various quantities of atmospheric air, and given in various methods.

2. The face was reported to be "dusky," "blue," "dusky red," "livid," "cyanotic," or "turgid," in seven of the nine cases, and never said to be "white" or "pale;" in the other two the color is not reported at all.

3. In seven cases the heart did not cease till some time had expired after the commencement of the alarming symptoms, and after the ether had been discontinued; the intervals varying from four minutes to three hours. In those of which the notes were comprehensive, we read that the pulse remained feeble, weak, or good for a longer or shorter length of time after the ether had been discontinued, or after the alarm had been taken; in the other two cases no certainty on that point can be gathered.

4. The lungs were reported to have been gorged with blood in five cases, and the pulmonary artery in the sixth. In another the

trachea contained a clot of blood; and, of the remaining three, two cases were not reported at all; and in one case only, in which the patient died three hours after the ether-inhalation was over, were the lungs altogether "pale," and even then they were "oedematous."

Two deductions seem to follow from these facts:

1. The fatal effects of ether do not depend upon any directly poisonous property of its own.

2. These cases died by "asphyxia."

The following theory seems to explain the facts and the deductions.

The intense cold produced by the ether under certain circumstances causes the small blood-vessels of the lungs to contract, and so offer such degree of resistance to the right ventricle of the heart as to stop it if it be weak or wearied, and embarrass it if it be strong; and, by watching the symptoms from this point of view, we are likely to be able to cope with the dangers as they may arise, or even (may we hope?) to prevent their occurrence entirely.

Assuming that the deductions are logically based upon known facts, we are driven into a corner out of which only such a theory as this can help us.

The asphyxia by which these deaths occur cannot be said to be brought on by any interference with the nerves or nerve-centres directly concerned in respiratory movements, *i.e.*, by paralysis of respiratory muscles, like the asphyxia from carbonic dioxide poisoning; nor, on the other hand, by any mechanical interference with the air-passages, as the asphyxia from hanging or drowning; but must be from interference with the chemical process of the aeration of the blood in the air-cells and blood-vessels surrounding them. This interference is not due to the want of oxygen, because *none* of these cases show that oxygen was absent; but most of them show the reverse, pure atmospheric air having been breathed for some time before death. It must, then, be the result of the insufficiency of the circulatory action of the blood in the capillary vessels of the lungs to do their share in carrying on respiration. What obstructs this circulation? It cannot be that the blood is poisoned with ether; for in one case three inhalations only had been taken, and in another the ether had been administered for one minute only. It must be from some property of ether which comes into action in certain circumstances; and when we call to mind its power of producing intense cold under some conditions, we venture to inquire into the likelihood of that property being the cause of asphyxia. Suppose it to be true. Ether, in its administration, becomes a vapor by absorbing a fixed amount of heat from surrounding media, generally the atmosphere, and in that condition is inhaled into the larger

bronchial tubes, and there becomes mixed with the residual air in the smaller tubes and alveolar spaces. From thence it is absorbed into and dissolved by the blood, becoming a fluid again virtually in that act, and therefore giving off a certain amount of latent heat. The heat diffuses itself through the body as well as the ether, and probably much faster, the latter having to be pushed on to other parts by the continued addition of more ether behind. This process goes on as long as ether is added. When its administration is discontinued or interrupted for any reason, and pure air allowed to enter the lungs, the amount of osmosis between the blood in the capillaries of the lungs and the contents of the air-cells is reversed. The ether, having now to change from the state of fluid to that of vapor again, reabsorbs the amount of heat it gave off on its entrance into the blood. If the air which has just entered the lungs be warm, the abstraction of heat for the re-evaporation of the ether will not be felt by the lungs, though it is sudden and local; but if, on the other hand, that fresh air be cold, whether on account of its passing through or close to an ice-cold instrument rendered so by the action of the ether, or from the room being cold, the amount of heat required suddenly by the ether in returning to the atmosphere will be more, and the lung-tissue, not having stored up the heat, will become so cold as to cause a violent contraction of its arterioles. Such an amount of obstruction from this contraction of a large number of vessels, without anastomoses or diverticula, so resists the right side of the heart that, unless the latter has an immense margin of strength, failure in its function is the result, and the patient dies in a space of time varying with the amount of resistance and the amount of strength the right ventricle possesses. If the death were rapid, there would be engorgement of the main branches of the pulmonary artery and the right side of the heart. But the heart may be able to overcome this obstruction; then the capillaries of the lungs become engorged, the chemical process in respiration becomes impeded, and the *vis a fronte* more or less lost. Here is another and perhaps greater resistance to the heart, and the latter, wearied out now, might fail. In this case, death would be more delayed than in the former; the pulse might be felt to become more and more feeble. Afterwards the lungs would be found engorged with blood, and the right side of the heart might be full of dark blood or the reverse.

But a strong heart might be supposed to overcome even this second resistance; then the engorged capillaries would throw out a quantity of serum into the air-cells and the surrounding tissues; that in the air-cells becoming frothy and being expectorated; that in the tissues, perhaps, after some time becoming reabsorbed, or possibly causing so

much difficulty in the acts of respiration as to constitute the last straw and break the camel's back by offering such embarrassment to the exhausted heart that the patient at last succumbs.

Mr. Dawson then proceeds to recommend Clover's inhaler, and to give his reasons for so doing, as well as minute instructions for the administration of ether, which are practical and instructive but will not admit of condensation.

HÆMOPYSIS (*The Boston Medical and Surgical Journal*, February 14, 1878).—In his report on the recent progress in the treatment of thoracic diseases, Dr. F. J. Knight quotes from the *Wiener Med. Presse* as follows. Jos. Hirschfeld says that among the therapeutic measures used against hæmoptysis cold deserves some recognition, as it, by reflex action, produces constriction of the vessels and diminution of their calibre, and so facilitates the formation of thrombi. The internal use of ice is to be preferred to the external application of cold. Any therapeutic procedure against hæmoptysis is essentially aided by deep inspirations (recommended by Niemeyer), provided the hæmoptysis does not come from a cavity. The expansive force of air breathed in and held in the lungs as long as possible exercises, evidently, a pressure on the walls of the vessels and on the gaping wound. The forced inhalation of astringents has not answered expectation. Styptics, such as alum, lead, tannin, chloride of iron, etc., taken internally effect but little and often disturb digestion. Of the narcotics, digitalis deserves special consideration, as it will show a beneficial although not a rapid action when the heart is excited, and especially when an uncompensated affection of the heart is the cause of the hæmoptysis.

The sovereign remedy against hæmoptysis is ergotin, which, as is well known, excites the vaso-constrictors. A solution in glycerin (1:10) is better than a solution in water, as after long standing it shows but little sediment and no fungi. After the injection the spot injected becomes very sensitive, with some heat, followed by redness, which disappears in eight or ten hours. If the patient is much excited or has much cough, the author is accustomed to precede the ergotin injection with one of morphia, or to give them both at once but in different places. In this way, the patient becoming quiet in mind and body, the ergotin has a better chance to act.

MISCELLANY.

MEDICAL GRADUATES IN 1878.—University of Pennsylvania, 127; Jefferson Medical College, 203; University of the City of New York, 153; Bellevue Hospital Medical College, 130; College of Physicians and Surgeons, New

York, 109; Buffalo Medical College, 42; Medical College of Ohio, 102; Cincinnati Medical College, 33; Miami Medical College, Cincinnati, 51; Louisville Hospital Medical College, 17; University of Louisville, 71; Louisville Medical College, 70; Missouri Medical College, 102; St. Louis Medical College, 49; Medical College of Virginia, 12; College of Physicians and Surgeons, Indianapolis, 41; Indiana Medical College, 29.

THE ROYAL SOCIETY.—So great is the desire for admission to the Royal Society, among certain classes of scientific men, that, although only fifteen will be elected, more than fifty candidates have either directly or indirectly entered into competition for the honor. The list of foreign members was made complete (fifty) at the close of last year by the election of seven members; but since then so great has been the mortality among the *savants* that there are already six vacancies in the foreign list.—*Medical Press and Circular*.

It is stated that the danger of epidemics being generated upon the battle-fields of Southeastern Europe is so pressing as to have attracted the serious attention of the life-insurance companies of Austria. Under their auspices a survey has been made, and immediate disinfection has been earnestly urged by them upon the Austrian government. It is estimated that at least fifty thousand corpses remain practically unburied. The idea of huge cremating-kilns is favored by a large section of sanitarians, that of destruction by quicklime by another, and a third maintains that burial in deep ridges will insure all that is required. In commenting upon the subject, a European exchange suggests the vigorous employment of every method of *flesh-destruction* as the only plan of averting with certainty one of those frightful epidemics of cholera and black plague which sends a shudder through one to contemplate.

"THE last dose from a bottle containing a mixture of strychnia and bromide of potassium," says the *Detroit Medical Journal*, "poisoned the patient. The bromide had precipitated the strychnia."—*Boston Med. and Surg. Jour.*

DISINFECTION OF HOSPITALS.—Some time ago the French Society of Public Health appointed a committee to report on the best means of disinfecting hospitals, etc. The report was read on the 27th of February of this year. It chiefly dealt with the value of heat as a means of purification. It is cheaper and more effectual than any other system which has come under the notice of the commissioners. The heat of the air must be raised to 212° or 220° Fahrenheit. During certain epidemics the pillows and beds supplied to patients should be filled with bran, which is immediately burned after their death or their discharge from hospital.—*Medical Examiner*.

NOTES AND QUERIES.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

As one of the Commissioners of the new insane asylum, I desire to refer to some of the statements of your editorial of April 13, and offer for your readers another version of the matter, which, in justice to the Commission, I feel bound to do. Although I have been strenuously opposed to them on many points, and feel assured that they have acted in some ways contrary to the intent of the law and to the good judgment of the framers of the Act, and in opposition to the future welfare of the insane poor, yet the Commission has accomplished considerable, and should have credit for the same. In reviewing your article I shall simply take up the various 'mistakes' you charge upon the Commission, and will present the facts of the case.

MISTAKE FIRST.

An appropriation of \$25,000 was made by the Legislature, in May, 1876, to enable the Commissioners "to purchase the land and to make necessary preparations for the erection of the building." You say, "with a sum so small nothing could be done, and thus one year was lost." The Act says, "the Commissioners shall select, within four months of the date of their appointment, a tract of land not less than two hundred acres in extent, within a convenient distance of the city of Philadelphia, and easily accessible from all the counties embraced in the southeastern district." Governor Hartranft did not complete the appointment of the Commissioners until late in December, 1876, nearly eight months after the passage of the Act. When the Commissioners organized, they were then required to select a site during a severe winter period and make a choice from some one hundred and fifty farms. All the eligible places had to be visited and carefully inspected,—no small amount of labor, I assure you; and this was done within the time specified.

MISTAKE SECOND.

The usual course adopted by Legislatures in providing for State asylums for the insane has been to appropriate a sum of money to commence the work, and then to appoint a Board of Commissioners,—generally three or five,—and after this to make yearly appropriations, thus causing much loss of time and money. So, in appropriating at once the whole amount for the new hospital, the Legislature did wisely, and, because of this, some who have been interested in other State asylums have felt aggrieved on account of this discrimination in favor of the new hospital. Again, the Commission is not bound to provide for seven hundred patients, as you say. The Act says the cost "shall not be more than eight hundred dollars per patient, exclusive of the land;" so that, deducting the amount paid for the land, 675 patients in all are to be provided for. You say this is "unprecedented cheapness." I agree with you that to those who have heretofore been intrusted with building such hospitals, where the cost has generally exceeded \$1500 to \$2000 per capita, and frequently ranged from \$3000 to \$4000, the proposal to build for \$800 per inmate may seem impossible. Let such as doubt if the insane poor can be accommodated for a reasonable amount visit Willard Asylum, and they will find the present per capita expense is but \$825.

After the Commission was organized, some of the members, to whom the subject was new, endeavored to familiarize themselves with the defects and good parts of the hospitals already built, while I, as chairman of the committee on plans and buildings, visited a large number of insane asylums in this and other States. You think "their incompetence was rendered all the more disastrous by their large number," and offer as a reason that delay was occasioned by their residing in various counties so that they could not readily attend the meetings. I can only say that no meeting was ever called at which a quorum, at least, was not present. A commission made up of those "knowing something of hospitals" would doubtless have gone ahead at once, but the State would have had probably one of the usual State hospitals,—a counterpart on the stereotyped plan laid down by authorities on the subject, and not such a one as the Legislature desires erected for the insane poor, complete, thoroughly built, but inexpensive, and without costly architectural adornment.

MISTAKE THIRD.

Under this heading you accord the Commission some credit for the site at Norristown, and go on to say that "the plans were advertised for, not foreseeing, apparently, that many would be offered indicating as little knowledge of the requirements of a hospital for the insane as they had themselves." In dealing with this public work it was thought best to vary the usual plan adopted by former commissions; and the results proved satisfactory, for, after considerable labor on the part of the committee on plans, and consultation with several

medical superintendents of the insane, as to details, the specifications of the hospital were carefully drawn up, and then printed for the use of architects who desired to compete in the work. From the number of plans sent in (twenty-eight) five were selected. You say, in speaking of the immediate selection of an architect, as "any one would do if about to build a house, etc.": had this sensible and customary course been taken by the Commission, the result, we are sure, would have been far more satisfactory." You may not know, Mr. Editor, the course adopted by previous Commissions, but it has not always worked so well as you may suppose. I may simply cite one instance, that of the Warren Hospital, which has been for several years in process of building. The commissioners of this hospital—supposed to "know something about hospitals" (and, by the way, these gentlemen all reside hundreds of miles from the site)—did select an architect at once, who prepared a plan, I am informed, simply an outline drawing of the plan adopted for the Danville Hospital, and, after serving some time, demanded no insignificant sum; finally a compromise was effected, and he was dispensed with. Our Commission agreed with the architects on a definite sum only for two years' work, when it is confidently believed that the building will be ready for occupancy; if not then finished, the Commission can pay or not for future work, as it deems best.

In regard to the selection of the architect, my vote was given for Mr. Sloan, whose plan was in all respects the most perfect, who has had an experience in building twenty or more hospitals for the insane, and whose knowledge of details and how to estimate judiciously in such work fully equals that of any other architect, certainly that of any of the architects whose plans were selected; and, as Mr. Sloan offered to build the hospital complete for seven hundred and fifty patients and for a sum within the appropriation, he received my vote. The Commission, however, selected architects whose plan required such radical changes that many weeks were consumed in preparing the final plan which the Commission adopted, and this was only accomplished after consultations with Dr. C. H. Nichols, of Bloomingdale, New York, Dr. Chapin, of the Willard Asylum, New York, Dr. Reed, of Dixmont, Pa., and others. These gentlemen went carefully over the plans, giving their counsel, and also expressed themselves as well pleased with the general plan of the work. No one appears to know why such a discrimination was made against Mr. Sloan's plan, and in this I agree with you that the Commission made a mistake, for it was well understood that not only the most perfect plan, but also the architect furnishing the same, would be accepted, and this mystery I have reason to believe may at no distant day be partially solved to the satisfaction of the public.

MISTAKE FOURTH.

You say, is that the plans cannot be altered without the consent of the Board of Public Charities. What the Act does say, and it is an exceedingly important point, is, "that no changes are to be made in the same so as materially to affect its general character, without the consent of the Governor and the Board of Public Charities." This I look upon as a most excellent restriction, and if such a clause had been in the act of construction of all State hospital buildings there might be to-day far less cause for complaint. I may instance the course pursued at Morristown: the Commissioners, after the plan had been adopted, made immense changes, involving the State in an outlay of two and a half millions of money, and the building is not yet completed. Such changes have most effectually put an end to the erection of insane asylums in New Jersey for many years to come, and have made Legislatures all the country over very cautious about commencing them. Nor can I understand the tone of the criticisms upon the Board of Public Charities, which seem to be interjected into the general discussion without any sufficient cause.

MISTAKE FIFTH.

The Act was drawn up by those who have devoted the best part of their lives in work for the good of the insane poor, and who well knew that a hospital could and ought to be built for an amount far less than that usually supposed to be required. When the offers for the new hospital were opened, all of them were found to be in excess of the amount appropriated. The specifications were changed, and estimates were afterwards made on the new basis, and a contract for a part of the buildings was entered into for \$382,000, to accommodate 680 patients, a number somewhat greater than the law requires. The administration building was dispensed with. Some of the Commissioners thought that an old house on the place could be used for this purpose. The kitchens, which were small enough, were reduced in size, and one ward, designed for eighty excited patients, was dispensed with. In one of the other ward buildings this class will be accommodated. It must be remembered that even in leaving off this excited ward building, so called, the number of patients required by the law to be provided for has still been

kept in mind. When the subject of this reduction of the buildings was discussed, I earnestly appealed to the members, the Governor being present, to complete all the buildings, but in a manner less costly, dispensing with marble and granite and towers, etc., but my efforts were overruled.

In regard to the heating, ventilating, etc., I am with you in your remarks. I labored for this to be otherwise when I offered the following resolution in the Board, viz., "that no contract for any part of the work for the hospital shall be awarded until estimates for the entire work, as complete and ready for occupancy, shall be in the possession of the Commission, with the usual bonds for the faithful performance of the same." This I did in order that not only the spirit but the letter of the Act should be complied with in every respect; but I regret to say that only one or two other gentlemen voted with me in supporting this measure which all prudent men will see the force of. The Commission gave out a contract for a portion of the work, leaving the very important and costly part of the hospital yet to be provided for, viz., the gas-works, the water-works, the heating, plumbing, sewage, and grading, besides other more or less important matters, to do it all if they can, if not, to go back to the Legislature if they find the money they have left insufficient to complete the work. In regard to the architectural arrangement, the committee on plans recommended, after a careful study, the isolation of several ward buildings. These are placed one hundred feet apart,—not eighty, as you say,—joined by a basement and a covered way, so that at any period of the year, through all weathers, communication will be easy and without exposure for patients or medical officers. For this you also condemn us. This general arrangement of the new hospital has been warmly approved by a number of superintendents of insane hospitals; but the fact cannot be disguised that because this hospital will be materially different from those already built,—will, in fact, cause a new departure as to cost as well as the manner of building in the future,—we are looked upon as being presumptuous.

You say that a prime requisite in hospital construction is facility of surveillance, and that any plan which fails to provide this is defective; that the nearer the employes and patients are brought to the chief the more perfectly will they be kept under his observation, etc. In the new hospital this is just what the committee on plans have accomplished. In each of the ward buildings—which is in fact a complete hospital in itself—there is a central administration building, in which an assistant physician will reside, so as to be in immediate association with his patients. If your premises are correct, how defective is the Morristown hospital, where the superintendent and his assistants all live in the centre building, nearly one-fourth of a mile from some of the patients! In others, the superintendent lives in a building entirely isolated; and so it is found over and over again. Our plan corrects this, and places the medical men among their patients, where they ought to be. In our plan the diminished risk from fire is an all-important point. Our buildings are but two stories in height,—certainly a merciful provision for the feeble at least,—and are provided with three sets of fire-proof stairways; and the risk to life, escape being so easy, is practically removed. We have a central heating supply and a central kitchen. The dangers by fire are thus at a minimum, for in none of the buildings will there be any fire at all, with the exception of a few gas-jets. In regard to the distribution of food from a main central kitchen, you can make yourself quite comfortable concerning the impossibility of keeping food warm. All the experts in this matter with whom we have consulted were quite satisfied that in this there was no practical objection, for at Morristown and similar large hospitals the distribution is quite as often over greater distances. In conclusion, permit me to say that the public desire to provide for all the insane poor, and if the new departure shall even measurably be carried out the desired result will be attained.

Very respectfully,

THOMAS G. MORTON,
Chairman of the Committee on Plans and Buildings.

CHARLESTON OFFICE, MILLS HOUSE,
March 12, 1878.

DR. S. WEIR MITCHELL,—I wish yourself and your friends in Philadelphia to test for me the utility of the prescription which follows, used as a *preventive of diphtheria*. I am a full believer in the applicability of the maxim *absta principis* to practical purposes. I think that every moment lost in beginning the treatment of a disease like yellow fever, for example, materially lessens the chance of success. I think that whether or not we believe in the production or spread by germs of a disease like diphtheria, a combination of suitable remedies used very early in or before the disease makes its appearance, can prevent or destroy it. I have therefore proposed, and have, I think, successfully used, the following combination:

R. Chlorate of potash, 5i to 5ii;
Mur. tinct. iron, 3i to 3iii;
Quinine, gr. xv to xx;
Hyposulphite of soda, 5j;
Water, ʒvii.

Teaspoonful to dessertspoonful to be used three times a day by those *exposed* to the disease.

No physician can object to the prescription even if given after the disease is declared, as the ingredients are used very generally. I have referred to the subject, giving the combination and my ideas with regard to it, in a review published in the *Charleston Med. J. & Review* some months since. Very many families here have used it, and do so habitually. It is, I am aware, negative testimony, but none have taken the disease. If they did take it, I am incapable of improving the prescription. There is no difficulty in its administration. It can do no harm, being in such small doses a very good tonic, and productive of no injury whatever, as abundant experience has shown to me.

I think this a very important matter, if I am correct, and am borne out by facts or the experience of others.

I remain, dear sir, with great respect, yours,
F. PEYRE PORCHER, M.D.

THE writer would be glad to have the opinions of physicians as to the *actual results* in their practice of the use of *dialyzed iron*. He frankly confesses that, in his hands, it has failed to meet the expectations he had been led to form of it. This has been especially the case in some instances of marked anæmia resulting from hemorrhoidal loss of blood. Here the exhibition of dialyzed iron, in full doses, failed entirely to show any obvious chalybeate effects on the blood, while the substitution for it of the pill of carbonate of iron (Vallet's) in one instance, and of the tincture of the chloride in the others, was soon followed by redness of the lips, a better color in the cheeks, and an improved tone of the general health. The new medicine certainly has the negative merit of absence of taste and of irritating properties: it would be unfortunate if it has also the negative property of inefficiency.

JAMES J. LEVICK.

1200 ARCH STREET, April 10, 1878.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF
OFFICERS OF THE MEDICAL DEPARTMENT
U. S. ARMY FROM APRIL 7 TO APRIL 20,
1878.

RANDOLPH, JOHN F., MAJOR AND SURGEON.—Relieved from duty at Fort Trumbull, Conn., and to proceed to Philadelphia, Pa. S. O. 66, Department of the East, April 16, 1878.

IRWIN, B. JR., MAJOR AND SURGEON.—Relieved from duty at U.S. Military Academy, West Point, N.Y., August 28, 1878, and then to report by letter to the Surgeon-General. S. O. 79, A. G. O., April 13, 1878.

ALEXANDER, C. T., MAJOR AND SURGEON.—To report in person to the Commanding General, Department of West Point, for duty at the Military Academy, August 28, 1878. S. O. 79, c. s., A. G. O.

WATERS, W. E., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Clark, Texas. S. O. 77, Department of Texas, April 10, 1878.

MIDDLETON, P., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, ordered before the Army Medical Board, New York City, for examination for promotion, and after examination report by letter to the Surgeon-General. S. O. 72, A. G. O., April 6, 1878, and relieved from duty at Fort Clark, Texas. S. O. 80, Department of Texas, April 13, 1878.

JESSOP, S. S., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month from June 1, 1878, and his resignation accepted, to take effect June 30, 1878. S. O. 74, A. G. O., April 9, 1878.

POPE, B. F., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas; ordered before the Army Medical Board, New York City, for examination for promotion, and, after examination, report by letter to the Surgeon-General. S. O. 72, c. s., A. G. O., and relieved from duty at Fort Stockton, Texas. S. O. 80, c. s., Department of Texas.

STYER, CHARLES, CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, ordered to Philadelphia, Pa., and, on arrival, report by letter to the Surgeon-General. S. O. 81, A. G. O., April 16, 1878.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 63, Department of the East, April 8, 1878.

HAVARD, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for six months, with permission to go beyond sea. S. O. 71, A. G. O., April 5, 1878.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MAY 11, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON ACUTE RHEUMATISM WITH HEART COMPLICATIONS—DIAG- NOSIS AND TREATMENT.

BY JOHN M. KEATING, M.D.,

Visiting Physician to Philadelphia Hospital; Lecturer on
Diseases of Children at the University of Pennsylvania.

GENTLEMEN,—I bring to your notice this morning a case illustrative of a lesion about which I desire to make a few remarks.

This boy, who now lies suffering before you, is 14 years of age, a native of this city, and has been a school-boy. His parentage is a good one. The other evening, after play, "he became feverish," to use his own words, and after an uncomfortable night awoke in the morning a complete case of mild articular rheumatism. Two days after he was admitted to this house; and to-day is the third day of the disease. You see the boy is well nourished, and presents generally a good appearance. His condition this morning is as follows: the temperature is 102° in the axilla; the tongue is clean, rather dry; the skin is very moist, beads of perspiration standing out upon the forehead, and particularly on the upper lip; in addition he exhales an acid "perspiration odor." He lies upon his back, and complains of the least movement causing severe pain in the left knee-joint. No other joints are at present affected, though I may state that the right knee and ankle were swollen and painful when he entered the house. The knee-joint is swollen and very tender to the touch. Let us now examine the pulse and note its peculiarities. It is quick, full, and has a somewhat harder or greater resistance than normal,—a marked contrast to the soft, elastic, though still compressible pulse of health. Upon listening to the heart-sounds I find the first aortic sound attended by a murmur,—a systolic aortic murmur. The second sound is not as clear and valvular as is noticed in health, but is muffled. The murmur has certain peculiarities, of which I shall speak presently. I find, in addition, a systolic mitral murmur, rather loud, smooth, and blow-

ing, transmitted to the left axilla. I also hear, when I put my stethoscope over the body of the heart and press it firmly, a soft rubbing, synchronous with the cardiac action, which, from its being localized and independent of the direction of the blood-current, is characterized as *pericardial*. Percussion shows us no increase in the area of cardiac dulness. The lungs are healthy. I may state that the bowels were rather costive, and that the urine is scanty and abnormally acid.

Throwing aside the question of temperature in this case,—for you see it is not too high to be compatible with life,—and bearing in mind that the joint lesion, however universal, cannot ever be fatal, let us consider the danger from the cardiac complication. Is the murmur simply a blood-murmur (so called), caused by alteration in rhythm from highly fibrinated blood or by anæmia, to disappear upon the subsidence of the attack, or to increase as the anæmia increases? or is it due to a *fresh* deposit of fibrin upon the tendons or leaflets of the heart from endocarditis? or is it an old murmur from a previous attack? Before we question our patient, let us endeavor to find out as much as we can for ourselves; for circumstances may often prevent the history of a case from being obtained. In this patient I notice that the murmur is smooth, soft, but not musical. Its time of greatest intensity is at the beginning of the first sound; it does not end in a musical hum, but stops abruptly just before the termination of the sound, when the ventricle has almost emptied itself. But the second sound also has some peculiarities not noticed in health. Physiologically it is said to be due to the return current closing the semilunar valves from aortic contraction, and is therefore distinct, sharp, and positive. Here it is not so distinct, not so clear; but the great rapidity with which the heart is working prevents our hearing any positive murmur, should one exist.

This latter fact, together with the tone of the murmur and the time of its occurrence, decides me to favor the balance on the side of a distinct heart-lesion against that of a purely hæmic murmur.

Is it a fresh lesion, or has it existed previously to this attack? It is not rough, it has not changed in note, rhythm, intensity, or beat, since the case came under obser-

vation. When the boy is quiet, and the heart-beat less frequent, the murmur is rather more indistinct; as soon as he is excited, it once more fully reappears with the same characteristics as formerly, and the complication or murmurish note of the second sound makes me conclude that it must be due to a lesion that has lasted some time, but aggravated by the febrile element in the present attack. The boy tells me that once—some twelve months ago—he had an attack similar to this, following the same cause.

From what I have said let me not mislead you into the idea that there may not be present some fresh deposit also, for it may be a question of vital importance to our patient to decide the *date* of the complication, as the treatment will be based accordingly. Endocarditis and pericarditis are the most fatal complications of acute rheumatism, the first tending to the formation of emboli, the second causing cardiac thrombosis or heart-failure. Both lesions will result in degeneration of the heart at some period of after-life that will cause death,—the former by interfering with the passage of the blood, the latter attacking the pericardial layers with plastic effusion and continually embarrassing the heart's action.

How to distinguish the fresh from the old lesion in endocarditis is, though important, difficult, and at times impossible to do. All Niemeyer says upon this subject, after dwelling upon its importance, I will quote for you:*

"The differential diagnosis is still more difficult between a recent endocarditis complicating articular rheumatism and an old valvular derangement which happens to pre-exist, especially insufficiency of the mitral. Such cases are by no means rare.

... If we have not previously seen or examined them, and if upon some fresh relapse we have a systolic blowing at the apex, the cardiac dulness extending laterally, and the second pulmonary tone being sharply accented, we must remain in doubt, unless the signs of dilatation of the right ventricle have attained such height as cannot be ascribed to acute insufficiency."

Walsh, in his most excellent work, tells us, speaking of endocarditis:

"A murmur being already present, the circumstances *within itself* favorable to

recency of origin are softness of blowing quality, lowness of pitch, systolic rhythm, and aortic constriction, or mitral regurgitant mechanism. The circumstances hostile to recent origin are roughness of quality, high pitch, diastolic rhythm (indeed, this is absolutely conclusive unless there be a systolic murmur at the same orifice), and seat at the tricuspid orifice. Direct mitral murmur also, I believe, is never recent.

... "The condition of the pulse cannot be confided in for diagnosis."

You see what difficulties we have to deal with, as a hæmic murmur may be classed under the first head, though it may differ in the point that it is usually more marked at the close of the attack, when due to spanæmia, and is more musical. From all we can gather, then, both from logical deduction as to the causation of the murmur, and from the experience of others, we may lay down the following general principles to guide us in our diagnosis, illustrated by the case before us:

Endocarditis is associated with about twenty per cent. of all the cases of general articular rheumatism, affecting those more particularly who have a number of joints involved.

It may be associated with changes in the pulse, as to fulness, throbbing, tension, quickness, etc., or these may be in no proportion to the extent of the attack; they may depend upon the fever.

When *new*, the murmur is usually associated with the cardiac systole; it is usually *rough*, particularly when the heart's action is not very rapid, though at times it is smooth. It is scarcely ever uniform: that is to say, it differs in tone, pitch, etc., with the deposit of lymph, increasing or decreasing with it, and therefore changing its characteristics at each examination. Percussion shows no increase in the size of the heart or in its position; nor does examination of the other viscera reveal anything showing a previous interference with the circulation. The apex-beat is not displaced. In old murmurs the sounds, by some, are said to be smooth, owing to the constant friction wearing down the rough deposit. They are blowing, harsh (in contradistinction to musical). This latter quality is described as rough by other authors. The murmur may at times partially disappear when the circulation is not very much excited; but when it re-

* See vol. i. page 339.

appears it presents its usual characteristics.

When the lesion has existed for some little time, percussion and inspection show some change in the shape and position of the heart. When these two conditions are combined, and a new lesion is superimposed on an old one, you will find greater difficulties to contend with in diagnosis, as there will be a combination of the symptoms that usually mark the difference.

Acute pericarditis, accompanied by pain, præcordial tenderness, excited and probably irregular cardiac action, friction-sound, and, perchance, some localized pleurisy, may be easier of diagnosis; in fact, it may be inferred when the symptoms are acute.

Concluding, therefore, that the patient before us has acute rheumatism, with the serious complication of a double valvular lesion of some months' standing,—though so slight a one as not to have changed the normal percussion dulness nor the apex-beat,—with a renewal of the inflammation of the endocardium of the aortic orifice, and at the same time slight pericarditis from the friction-sound and præcordial pain, what are the dangers, and what shall be our treatment?

First, we fear heart-clot.

Secondly, embolism or thrombosis, or the establishment of a serious chronic valvular lesion from the endocarditis.

From the pericarditis heart-clot may result from the pressure or interference with the movements of the heart; or if effusion take place in great quantity, causing sudden arrest, chronic adhesions may form, which would cause future hypertrophy, then dilatation, or disease of the heart-structure, myocarditis, bringing about a fatal termination sooner or later.

Your patient, suffering intensely from utter prostration on account of the pain and the joint complication, will not have to be told to keep in absolute rest. Lying on his back, every motion or jar will be painful, agonizing, and your first duty will be to give him relief in that direction.

You have many ways before you; consider well the surroundings of your case, and your judgment will decide you in the course to pursue. A comfortable bed, light (in contradistinction to heavy) clothing, and quiet surroundings should be insisted upon. The undergarments are to be repeatedly changed, and linen is

preferable to any other covering, as woollen goods will soak up the moisture and keep your patient continually uncomfortable. Adopting Dr. Murchison's view as to the want of activity in the liver being, if not the cause, at least the promoter of the mischief, a cholagogue cathartic should be at once administered. Some recommend a dose of *blue mass*, either alone or combined with ext. colocynth. comp., or res. podophyll. Probably a better plan is to give small repeated doses of Dover's powder, say gr. ii every two hours, with gr. $\frac{1}{2}$ of calomel, until the bowels are affected; it will ease the pain, aid the sweating, and act as a mild laxative. The latter action might be aided by giving a wineglassful of liq. magnesiae citratis every hour or so, after a few doses of the calomel have been given, or the citrate of potassium can be used with the same intent, administered in the form of neutral mixture.

In all probability the great sweating which is characteristic of this affection is eliminative, to a certain extent; indeed, I have of late used *jaborandi*, to increase or aid it when not fully established, and in these cases the intense sweating following has given almost immediate relief to the pain.

But you must bear in mind that although excrementitious matter may be eliminated by the skin, it requires much water to hold it in solution, which is taken at the expense of the tissue, unless you add to the supply. Let your patient drink as much water as he wishes,—carbonated waters, if they should be more refreshing, preferring probably the Apollinaris water as the most agreeable. They serve the purpose of quenching thirst, are mildly stimulating, diuretic, and at the same time supply that alkalinity which is essential to the neutralization of the excess of acid which is found in this affection, and to the prevention of blood-clotting. You may use the Saratoga Vichy water, which contains a large quantity of bicarbonate of sodium.

As for diet, milk, with lime-water, given iced if the patient prefer it, seems the most easily digested, and when the thirst is great, and the tendency to prostration extreme, beef-tea made strong and frozen may be used instead of ordinary cracked ice. The bromides are highly praised in this disease, particularly that of ammonium, as used by Da Costa and others;

they are sedative, and, to a certain degree, diuretic. The bromide of lithium, from some experiments that were lately instituted in this house, is decidedly diuretic, in one case increasing the quantity of urine to twice the amount, when given only in ten-grain doses every three hours, at the end of twenty-four.

Of late, salicylic acid and its salts have been introduced in this connection. In the case before us, salicylic acid has been given in pill-form in five-grain doses, repeated thrice daily, with marked benefit. It acts with marvellous rapidity upon the painful joints, and also has the effect of lowering temperature. As it is rather irritating when given in this way, I have used it dissolved in spts. ammon. aromat., or liq. ammon. acet., which dissolve any amount of it readily, and, when given with a small quantity of opium, rests well upon the stomach. The salicylate of sodium, and that of lithium, are good substitutes for it, and much less irritating. Owing to the higher febrile action accompanying these cases it often becomes necessary to administer a cardiac sedative. In this hospital Dr. Ludlow has, for years past, recommended the nitrate of potassium, a drachm to the pint of water, to be taken during twenty-four hours, as the only medication, and this has served well all the indications.*

In all cases it is well, from the commencement, to associate a small quantity of potas. iodid. with your medicinal treatment; it will aid re-absorption of any organized lymph in the joints or upon the valves, increasing the dose as the deposit gives evidence of getting larger. A few doses of tinct. aconit. rad. may be indicated when the arterial tension is high and the joint trouble particularly painful, or tinct. digitalis when heart-failure is imminent. As for local treatment, we adhere to the old-timed lead-water and laudanum in most cases. Some cases in this house, of great severity, obtained relief from compresses made of jaborandi leaves encircling the joint. Solutions of salicylic acid, the salicylates, bicarbonate of sodium, poultices of stramonium leaves, cotton wadding, etc., have all been used. Blistering, in the acute stage, is not to be thought of, as it leaves a denuded surface, which interferes with future applications.

If you detect, as we have in this case, a cardiac complication, you rely on your sodium and potassium salts, your cardiac sedatives, and, if there is much oppression or pain in the præcordium, a few leeches, followed by a mush or hop poultice, will be of advantage. Cold is not only not indicated, but even may be productive of harm. The condition of the heart, then, is the indication for treatment. Everything else being equal, the early development of a murmur will cause you to push the treatment, provided you are sure the lesion is a fresh one, otherwise it will be unnecessary.

As this disease is productive of profound anæmia, *iron* is indicated to correct this tendency. When your patient can tolerate it, begin early with Basham's mixture, increasing the dose as the pyrexia diminishes.

Let me impress one thing upon you. The mildest cases, judging from the fever, pain, etc., are often accompanied by the most serious heart-lesion, just as we have often seen the so-called mild cases of typhoid fever are the most fatal, because in them we neglect to use all necessary precautions.

[The patient continued to take salicylic acid, with no other treatment except counter-irritation to the chest, and in a few days recovered rapidly. When taken before the class again, the heart-sounds presented the same characteristics as they did previously; the mitral regurgitant murmur being the most marked, as the pulse was lessened in frequency, and the rhythm could be more easily detected. The præcordial friction had entirely disappeared.]

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF NAPELLINA AND ACONITIA.*

BY J. MONRO MURRAY, Asst.-Surg. U. S. N.

PART I.—NAPELLINA.

(Continued from page 344.)

NERVOUS SYSTEM.—In a number of experiments not necessary to report in detail, it was found that napellina is especially poisonous to the nervous apparatus, acting primarily on the respiratory system and causing death in that manner.

* See article on Action of Potassium Salts on the Human Body, Journal of Physiology, vol. i. No. 1.

The general phenomena observed agree with those recorded by other observers, except that the drug in moderate doses does not particularly affect the heart.

Action on the Motor Nerves.—The nerve tested was in all cases carefully isolated from the surrounding muscular structures, and gently lifted out of its position prior to the application of the electric current by means of Ludwig's electrodes. The strength of the current was graduated by Dubois-Reymond's apparatus, one cell being used eighty-one millimetres in height and fifty-eight in diameter.

In thirty-eight experiments upon frogs in regard to the action on the motor nerves, I have observed that in all cases the neurility of these nerves was quite impaired, and in most cases there was an entire destruction of their functions. Where there was no complete paralysis I have noted that it was not dependent on the variety of the frog used. Ott has arrived at like conclusions from his researches on *lycoctonia*.*

Sensory Nerves.—In these experiments I used the methods of Bernard and Brown-Séquard. Von Bezold's method, as Boehm and Wartmann have demonstrated, is liable to too many errors for safe conclusions. With the Bernard method the iliac artery and vein on one side were ligated, and then the poison was injected into the lymph-sacs of the back.

In a number of experiments made after the method of Brown-Séquard, it was found that when irritation of the sensory-nerve endings in the skin was not able to call out reflex movements, irritation of the trunks did so for a while, showing that the abolition of sensibility by napellina proceeded from the periphery of the centre. This view is also further supported by the fact that when the poison was prevented from going to the origin of the nerves of the posterior extremity by section of the spinal arteries, irritation of the poisoned posterior extremity was unable to call out reflex movements in the unpoisoned extremity. Here the trouble was not in the lower segment of the spinal cord, since it received no poison, but in the sensory-nerve endings, which did.

Action on the Striated Muscles.—The prolongation of muscular contraction by veratria was first noticed by Kölliker.

Buchheim and Eisemerger found that the curve of napellina was essentially different from that produced by aconitia. Weyland states that the curve of aconitia is very much prolonged, like that of veratria. I used Marey's comparative myograph and Foucault's regulator to study the effect of napellina on the muscle-curve.

The frogs received the poison, and in from twenty minutes to one hour afterwards the gastrocnemii were separated from the body and attached to the myographic levers. The muscles were kept moist by a weak solution of chloride of sodium. Dubois-Reymond's key or a contact-breaker was used to open and close the electric current. I made seventeen experiments in all, and failed at any time to see a prolongation of the muscle-curve. I also made other experiments by the direct action of the poison on the muscle. I took the gastrocnemii of a frog and immersed the one in a solution of napellina 1 c.c. = .01 gr., and the other in distilled water. On testing with Dubois-Reymond's apparatus, it was found that napellina directly applied to the muscles reduces their irritability.

Action on Respiration.—The experiments on respiration were made on rabbits, cats, and dogs. A T-shaped canula was used, which, after the operation of tracheotomy, was bound in the trachea. One limb of the canula communicated with a Marey's polygraph, whose lever recorded the number of respirations on Ludwig's registering apparatus. In eleven experiments it was found that napellina caused first an increase and then a decrease of respiratory movements; that these movements are irregular and slowed in their character. After section of the vagi the same phenomena were present, showing that the vagi do not participate in the increase or decrease of the respiratory movements by napellina. These must be due to primary excitation of the centres of respiration in the medulla and their subsequent paralysis. The motor nerves of respiration are not greatly paralyzed, as when the phrenic nerve is irritated contractions of the diaphragm ensue.

Temperature.—The action on the temperature was studied on dogs, cats, and rabbits. In all of ten experiments there was a constant fall of from 3° to 3.50° C. The temperature was taken by the rectum.

Glandular System.—I have observed in all my experiments on warm-blooded ani-

* Phila. Med. Times, December, 1875.

mals that the salivary glands poured forth a great amount of secretion, which was very thick, viscid, and tenacious in character. The gall-bladder was always greatly distended. There was also decided diuresis in all the animals experimented on. The autopsies invariably revealed distended bladders. The urine in all cases repeatedly tested showed neither albumen nor sugar. The fecal evacuations were augmented, but there was no diarrhœa. The fæces were solid and firm. The intestinal peristalsis was decidedly increased, and the intestines responded to electric irritation. When pregnant animals were used, on the post-mortem the fœtus was alive in the cavity of the uterus, but in some cases uterine contraction was set up and the fœtus expelled prior to the death of the animal.

End of Part I.

ARE THERE SPINAL RESPIRATORY CENTRES?

BY B. F. LAUTENBACH, M.D., Ph.D.

MODERN physiologists have concluded that the stimulation producing the involuntary rhythmical respiratory movements proceeds from a circumscribed area of the medulla oblongata in the vicinity of the nuclei of the vagus and accessorius nerves. That the destruction of this portion of the nervous system immediately suspends the movements of the muscles concerned in respiration, and thereby proves fatal to the animal experimented upon, seemed indubitably to prove the preceding statement. From this centre—"nœud vital," as it was called by Flourens—it is now universally believed that the phrenic and external intercostal nerves are excited to produce inspiratory movements, and that expiration, in so far as it is active, is also under the control of this nervous mechanism.

These views were also adopted by me until recently, when, making some experiments on a different subject, I obtained results which show that centres other than those in the medulla oblongata are concerned in producing respiratory movements. Before, however, alluding further to these experiments, I wish to present a short *résumé* of the literature on the subject.

Legallois* was the first to place the re-

spiratory centre in the medulla oblongata. He found that when he destroyed the cerebrum, the cerebellum, and the medulla oblongata down to the origin of the pneumogastric nerves, respiration still continued; but when the section included these nerves the respirations ceased and the animals died. A section of the spinal cord on a level with the origin of the second cervical nerves destroyed the movements of the chest-wall and diaphragm, but allowed the respiratory movements of the glottis and face to persist. A second section, immediately below the origin of the pneumogastriacs, caused these latter to cease;† but—what is very important—yawning persisted ("*des baillemens persistant encore*").

These results were confirmed by Calmeil‡ and Flourens.§ The portion of the medulla oblongata whose destruction was followed by cessation of the respirations was called by Flourens the vital knot ("*nœud vital*"), because, as he supposed, life ceased when it was destroyed.

That the destruction of this vital spot or knot is not necessarily fatal was soon shown by Schiff|| and Brown-Séquard,¶ who found the heart to continue to beat after its extirpation. The last-mentioned investigator saw attempts at inspiration take place after this operation, and believed that when fatal results occur they are due to the introduction of air into the opened veins through these efforts.

Schiff was able to extirpate a portion of the floor of the fourth ventricle, one and a half to nearly three lines wide, in the median line, throughout the length of the medulla oblongata, without interfering with the respiratory movements; but when he injured the upper outer portion of the ala cinerea the respirations immediately ceased, even if he had previously cut the vagi nerves.

Budge** concluded from his experiments that there were two distinct respiratory centres in the medulla, one of which is for expiration and the other for inspiration. The former he believed to be the pneumogastric centre, and the other Flourens's

† This statement is not absolutely true, as I have frequently seen these movements to continue after the destruction of the medulla oblongata; but they cease immediately on destroying the pons.

‡ Journ. d. Phys. Exp. et Pathol., 1823, tom. iii. p. 453.

§ Recherches expérimentelles sur le Système nerveux, Paris, 1824, p. 177. Ann. d. Sci. Nat., tom. xiii. p. 86.

|| Lehrb. der Physiologie, p. 324.

¶ Journ. de la Physiologie, i. p. 219.

** Arch. f. Path. Anat. u. Phys., xvi. p. 433.

* Œuvres, Paris, 1824, tom. i. pp. 64, 247.

nœud vital. According to this author, these two centres act antagonistically. The existence of two such centres was disproved by the experiments of Rosenthal.*

Faivre† compares the ganglion of the metathorax of insects with Flourens's *nœud vital*. This was, however, disproved by Baudelot,‡ who found that all the abdominal ganglia of these animals were concerned in respiration.

In normal full-grown mammals I have on numerous occasions destroyed the medulla oblongata, for various purposes. Under these circumstances the respiratory movements of the chest usually ceased immediately. As section of the medulla high up failed to have this effect, it seemed most probable that the older investigators were correct when they located in this portion of the nervous system a mechanism which was so differentiated as to preside over respiratory movements.

Even in these experiments the operation was not always followed by an immediate cessation of the respiratory movements, but the animals thereafter made several ineffectual attempts at inspiration. These attempts I at the time attributed to irritation of the fibres connecting the medulla-centre with the phrenic and intercostal nerves. On reflection it occurred to me that not only attempts at, but true inspirations must occur from such an irritation, and consequently these attempts must have been due to impressions made, by the necessity for oxygen, on centres other than those situated in the medulla.

Recently in two young dogs I destroyed the whole of the medulla above the calamus, and was much surprised to see the respiratory movements of the chest and diaphragm continue for about fifteen minutes after the operation. At the autopsies complete destruction of the medulla was found in each instance. In these animals the connection of the cerebral hemispheres with the pons had been destroyed several days previously, and as a consequence their rectal temperature was reduced to respectively 76.4° and 78.7° Fahr. This may, perhaps, have in some manner influenced the result, but it nevertheless must be conceded that after the destruction of the medulla oblongata in these animals, portions of the nervous system below it

were able for a time to take on themselves its respiratory function.

On obtaining these results, I commenced a series of experiments to determine whether, after complete destruction of the medulla in normal animals, respirations still continued, and was rewarded in quite a number of instances by finding that they did. These experiments were all made on young dogs and cats. The operation must be made in young animals, and with very sharp instruments, to insure the possibility of success. Under other conditions, and where the operation was too rapidly completed, the experiment always failed. But even in these experiments I frequently found that respiratory movements could be reflexly excited by irritation of the anterior crural nerves.

If the nervous mechanism which excites the phrenic and intercostal nerves to action exists solely in the medulla oblongata, the action of these nerves must cease when the connection between them and the medulla is destroyed by section of the spinal cord in the upper cervical region. In a number of experiments made on various young mammals I found that the respiratory movements frequently continued after such a section. On looking over the literature on respiration, I find that Brachet,§ as early as 1835, observed the same phenomenon in one of his experiments on guinea-pigs, and P. Rokitsky|| has shown that after section of the cervical spinal cord of animals poisoned with strychnia respirations still continue.

In a number of my experiments the vagi had previously been cut, notwithstanding which respirations still continued after section of the cervical spinal cord in several instances.

Conclusion.—Besides the respiratory centre or centres in the medulla oblongata, there exist in the spinal cord nervous mechanisms which may keep up the respiratory movements after the destruction of the former.

DR. J. MUTER, after several experiments, has found that thirty-five per cent. of glycerin-water can be added to milk without fear of detection either by gravity or by the ordinary "solids, not fat" process. The analysts must look to their laurels. Fortunately, glycerin is wholesome.—*Medical Examiner*.

* Comptes-Rendus, 1861, i. p. 754.

† Ann. des Sciences Naturelles, 1860, xiii. p. 81.

‡ Ann. des Sciences Naturelles, 1864, p. 161.

§ Ueber Gangliennerven, Leipzig, 1836, p. 56.

|| Wiener Med. Jahrb., 1874, S. 30.

NOTE ON UNNECESSARY HYPODERMIC MEDICATION.

BY G. BETTON MASSEY, M.D.,

First Asst. Phys. State Hosp. for the Insane, Danville, Pa.

AN editorial in the *Times* of March 16, on hypodermic medication, recalled to mind a flagrant instance of the abuse of this valuable therapeutic method. A young lady, suffering from mild melancholia, came under my care some time since, with seven or eight ulcers on each arm. In addition to these, a series of as many deep abscesses afterwards showed themselves, extending far in between the muscles, and literally honeycombing the whole of both arms.

Her physician had thought it necessary to administer repeatedly as much as 1x gr. chloral hydrate by the hypodermic method, on account of a fancied inability to give it by the mouth. By a little persuasion I succeeded in overcoming her repugnance to the taste; but the physician's rash experiment cost the patient three months of suffering and a lifetime of scars.

TRAUMATIC TETANUS—RECOVERY.

BY HORACE Y. EVANS, A.M., M.D.

JOHN D., æt. 21, in vigorous health and of temperate habits, February 11, 1878, had all the fingers of his right hand crushed by being caught between cars. I amputated the first, second, and third fingers at the middle of the shafts of the first row of phalangeal bones, and the fourth finger at the middle of the third phalanx. The parts were dressed with carbolic acid and laudanum, and enveloped in carded cotton.

22d.—The patient complained of difficulty in deglutition; wounds doing well.

23d.—Trismus well marked. Tonic spasms of the flexor carpi ulnaris of right forearm.

24th.—The masseter, sterno-cleido-mastoid, and muscles of right forearm rigidly contracted. Pulse 100, temperature 98°. Wounds healing nicely.

26th.—Has had three violent attacks of opisthotonos during the past twelve hours; partial paralysis of right leg.

28th.—Aggravation of all the symptoms; has had thirty-eight attacks of spasms of the neck, throat, and back during the past twenty-four hours, in several of which death from suffocation seemed imminent; profuse perspiration and diarrhœa.

March 1 and 2.—Life in peril every hour from the persistency of the convulsions.

3d.—Slight palliation of the symptoms; per-

spiration and diarrhœa arrested. Pulse 100, temperature 98°, respiration 20.

8th.—Continues to improve; but four attacks of opisthotonos since yesterday; can now move and direct the right leg.

15th.—By mistake the chloral and bromide and morphia were omitted for four hours, and as a consequence there was a return of a violent opisthotonic spasm.

19th.—Improved in every way; relaxation commencing in all the muscles implicated.

23d.—From this day (6th week) convalescence was uninterrupted, and he is now (April 23, 1878) in splendid condition and ready for work.

The treatment consisted of a combination of bromide of potassium, hydrate of chloral, and tinctura opii acetata, in varying quantities and frequency of administration as the condition seemed to demand. But these, even in large doses, failed to arrest the spasms until assisted twice daily by gr. $\frac{1}{2}$ of sulphate of morphia hypodermically. Hot hand baths and chloroform liniment to muscles of back and neck appeared to palliate his sufferings.

The stomach was at all times retentive, and during the intervals he was enabled to swallow large quantities of beef-tea, milk, and eggs. Not any stimulants were used. The patient was seen on different occasions by Drs. Baldwin, Samuel Ashhurst, and Cleemann.

GREEN STREET, PHILADELPHIA.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINIC OF DR. WILLIAM GOODELL.

(Reported for the *Medical Times*.)

LACERATION OF THE FEMALE PERINEUM AND CERVIX UTERI.

MRS. McD., æt. 33, has had four children. Two years ago, upon the birth of her fourth child, she was delivered with the forceps, after a tedious and painful labor. Since that time she has been unable to retain the contents of the bowel. Two months ago she aborted her fifth child, and ever since has suffered from constant bleeding. A careful examination has shown us a laceration of both perineum and cervix uteri. The sound shows a total length of three and a half inches for the uterine cavity. The uterus is relaxed and flabby.

From the woman's own statement, she was not conscious of anything wrong until she got out of bed. Her first warning of the accident was her inability to hold her fæces and wind. This is just a repetition

of the same old story : the attending physician neglected to examine the parts carefully after the labor, and so the double laceration escaped his notice. Let me once more impress upon your minds the absolute duty which is laid upon you of examining the parts carefully and minutely after labor, and either of satisfying yourselves that there is no ulceration, or, if there be one, of sewing it up at once, after having made a clean confession of the accident to the woman. In order to avoid the occurrence of this accident, my advice to young men has always been to take the forceps off the minute that the head bulges the perineum. This rule is particularly absolute in cases of primiparæ. I am referring now, of course, to rupture of the perineum. You should examine the parts not only with the eye, but with the fingers. Place your index finger in the rectum, and your thumb in the vagina, and see if there is still the normal amount of tissue between the two. As I have already remarked, the physician in this case, whom I know to be a most competent man, did not make a thorough examination, and so lost the golden opportunity of passing in sutures ; for if the rent looks like a bad one, and involves to any extent the sphincter ani, you should always suture it on the spot. In cases where the sphincter has not been injured to any great extent, the cure may usually be left to nature. Very little pain is caused by sewing up the rent immediately, as the parts are numbed and the nervous sensibilities of the patient blunted by the exhaustion consequent upon labor. Of course it is best to give ether before the immediate operation also ; but in cases where such a course is not advisable, remember that the skin is the most painful part, and, in passing the needle, plunge it quickly through the skin, and take your time in getting it through the rest of the tissues. Be careful to have with you a perineal needle, such as this one, in all labor cases.

But this poor woman is suffering from other troubles. She has a bad laceration of the cervix, and she has been bleeding constantly for the past two months. How do I explain this bleeding? The womb, you were told, was three and a half inches long. This abnormal length is undoubtedly the result of subinvolution. There are probably some fungous growths in the womb. Let me see if this is not the case.

I will pass this sharp curette into the cavity. Let us see what we can bring to light. Subinvolution alone will not produce such constant bleeding. Yes ; it is just as I thought. As I pass the curette over the right side of the cavity, probably the placental site, you hear what a grating sound is produced. Upon withdrawing the instrument I bring out a quantity of fungi looking like pieces of boiled tapioca. I do not find near as many of these growths to-day as I did last week. They only exist over the placental site, and are due to an exaggerated local growth of normal tissue.

Let us now turn our attention to the cervix. For examining these parts Sims's is the best of all specula, the only drawback to its use being the necessity for an assistant to hold it in place. Unfortunately, you can see but very little of the operation for laceration of the cervix. The cervix was probably lacerated at the same time with the perineum, or the accident may have been perhaps due to premature rupture of the membranes. As the woman wants me to operate upon both perineum and cervix to-day, I must begin at once, without any more waste of time.

I will begin on the lower side of the cervix, and get that done first. This operation for laceration of the cervix will relieve the woman of a great deal of misery. Lacerations of the cervix are almost always lateral. The complete subinvolution of the womb is retarded by the condition of the cervix, and so the bleeding and leucorrhœa will continue until the cervix is restored to its normal state. The rent in the cervix rubbing against the wall of the vagina sets up a constant source of irritation, and abrades the exposed mucous lining. I cut out of the rent a wedge-shaped piece, so as to make sure that no spot of mucous membrane is left behind. The cervix is vascular, and, as you see, bleeds readily. Having trimmed off and coaptated the edges, I will now proceed at once to run in my sutures. The passage of the stitches through the tissues always stops the bleeding. Sometimes an artery spurts, and, not being able to ligate it, you have to depend on the stitches to stop it. This operation for laceration of the cervix uteri is generally a most successful one. The hardest part of the whole operation is the passing in of the sutures. A cervix which has been for a long time in such a condition

as this one presents, offers one of the greatest obstacles to the passage of a needle to be met with in the whole range of uterine surgery. This cervix is just as tough as leather. I have upon several occasions found it almost impossible to pass needles through such tough tissue without bending and perhaps breaking them in the attempt. You see how my needle turns in the grip of the holder. However, I have been more successful than usual to-day in pushing the needle through. Never thread your needle with the wire, but pass a piece of fine silk thread through the eye of the needle, and tie a half knot in it. In making the stitches, pass the end of the wire through the loop of the thread, and simply bend it over; the wire will, of course, follow the loop.

You will be very often required to perform this operation. A lady will call upon you and tell you that she has been treated by a number of physicians without any success. She suffers greatly from leucorrhœa and menorrhagia. She gets well, and then it comes on again. In making your examination you see what has been mistaken by her previous physicians for an erosion,—a raw surface to which nitrate of silver and all manner of things have been applied without producing any permanent cure. How are you to prove that the apparent erosion is in reality a laceration of the cervix uteri? Take two tenacula and bring the sides together: if this causes the seeming erosion to disappear, you may be sure that you have a laceration of the cervix to deal with. Some lacerations resemble exceedingly a simple erosion.

How about this lacerated perineum? Ought I to operate upon it to-day? That would make the third operation in one day, counting the scraping out of the fungous growths as operation number one. I think it would be safer to postpone the work on the perineum until next week. I want to take out the stitches in the cervix on the eighth day. If I operated upon the perineum also to-day they would have to remain *in situ* for at least twenty days, perhaps longer. Then, too, there is the danger of septic trouble in the wards, and the general danger of peritonitis. Of course she would be much more exposed to the above diseases should I close up the rent in the perineum at this same sitting.

This last stitch on the lower side I will pass all the way through with one sweep.

As I have proceeded with the operation you notice that the patient has been gradually getting over on her belly. That is not the proper position for the operation, of course, but so long as I can work easily I will let her alone. I see that I shall have to pass another suture just below the angle, so as to stop all the bleeding. The operation is at best a long and tedious one. I hope to shorten it in future by persuading Mr. Gemrig to have a much stronger needle-holder made for me. Of course the leucorrhœa will be cured by this operation. So much for the rent in the anterior lip. On the other side the rent is shorter and the operation easier. Before denuding on this side, let me see where the os uteri is, so that I may not include too much tissue within the sutures, and so occlude the natural opening into the womb. I take a wedge-shaped piece out on this side also; otherwise I might leave some islets of mucous membrane behind. It bleeds very freely on this side. The laceration is worse on the left lip because the vertex presents on that side. In the vast majority of cases where there is an occipito-posterior position the vertex will present on the right side, and the laceration will be worse there.

I have already mentioned one means of diagnosis between a laceration of the cervix and an erosion. In some cases the cervix is mushroom-shaped, and curls over like a cut celery-top. This being the case, when you put in your speculum you make it turn still farther over, and present a plane surface. When this happens, the only means of determining the exact nature of the trouble is to pull down and bring together with the fingers the parts which have turned over.

To-day the woman's womb is three and a half inches long. By the first week of June, or earlier, I hope to bring her before you and show the womb reduced to its normal size. In the vast majority of cases subinvolution is entirely dependent upon the laceration.

I am now ready to clamp all my stitches; but first let me open the sides of the rent and with a sponge (a syringe is the best thing for this purpose, but here there is only space enough to use a sponge) clean out all the clots. Here, I find, is a little shred of mucous membrane which I have overlooked, and which must be carefully clipped off before bringing the sides to-

gether. I will run my first clamp down upon this suture at the lowest angle.

I shall not proceed to operate upon the perineum to-day. Next week I will remove the stitches I have just put in, and then will be the time to operate upon the perineal rent. I prefer to take the stitches out at the end of a week's time; otherwise the orifices left after the removal of the wires will heal up by cicatrices, and you know how painful it would be should a nerve-fibre be caught in one of these cicatrices.

I have, you see, now succeeded in clamping all the stitches put in. In bringing the sides together it is exceedingly difficult to get exact mathematical coaptation; but always try to come as near hitting it as is possible. Be very careful in sewing up the rents that you leave enough space for the natural shrinkage of the parts, so that the cervix will not be occluded. The result of the operation gives what is called a conical cervix. The cervix instead of being broad on top is conical. I have been very careful not to leave any raw surface exposed, for fear of dangerous and draining hemorrhage. The veins of the womb and cervix are valveless, and the tissues are erectile. If, in spite of all my precautions, bleeding should take place, I should order first an injection of hot water (110°) into the vagina, and if that did no good I would try a saturated solution of alum. As a final resort the tampon is, of course, indispensable.

I have cut the ends of the wires off short after clamping the shot as tightly as possible. I think I have left enough "space for repentance," as painters call it, on each side of the cervix. The external os now measures fully one-half an inch in diameter.

If you wish to keep the edges on your curved scissors, always, in such an operation as this one, cut the wire ends with the heel and not with the point of your scissors. In the operation for vesico-vaginal fistula you cannot do this. There you will have to have several pairs of sharp scissors at hand. You see how tedious an operation it has been. I have been kept hard at work for a whole hour. I never performed this operation in less than forty minutes. The last thing I do before sending the woman to the wards is to push the cervix well up, and so throw the fundus into the hollow of the sacrum.

In two cases of laceration of the cervix in which there was serious retroflexion of the womb, that organ was righted by the operation which I have just finished. I do not think that the patient will suffer from any troublesome symptoms between now and next Wednesday.

* * * * *

This is the same patient that I operated upon last Wednesday for laceration of the cervix. To-day I shall close up the rent in the perineum. The doctor who attended this woman (I suppose I may tell you, as he is now dead and gone), though a most excellent physician, was greatly addicted to liquor. On one occasion, when attending a woman in labor, while under the influence of liquor, he pulled the child bodily out of the mother with the forceps and threw it upon the bed. I am afraid he was in somewhat the same condition when he delivered this woman.

The first thing I will do to-day will be to remove these stitches. I take them out now because if I do not I shall have no chance of removing them for some three weeks. The union has, I find, been complete on both sides of the os. The success in these operations is due to the great vascularity of the parts. This woman has suffered but little pain, and took no medicine except a small dose of opium on last Wednesday.

The rent in the perineum turns out to be a very bad one, running through both the sphincter ani and recto-vaginal septum. I will begin, as is my custom, by shaving off the skin on the lowest part of the rent first, so that the bleeding may not obscure the parts. I pass my finger into the anus, and with a pair of curved scissors trim off the surface. I take great care to snip off all the mucous membrane of the surfaces to be brought together. This work of trimming has to be done very slowly; once in a while a little artery spurts. I control the bleeding by applying a *serre-fine*. A ligature would be always in the way.

The treatment preparatory to this operation consisted in a dose of oil yesterday morning, followed by an enema. The last passage from the woman's bowels took place at six o'clock this morning. A little later this morning she took a pill of opium. A suppository containing opium was also administered. The patient will suffer a good deal of pain from this operation. The stitches always cut more or less; particularly is this the case with fat people.

In examining the women who have come under my notice, I have found the average of women having complete laceration of the perineum to be about one in one hundred. This is certainly a very large proportion. The unskilful use of the forceps is the cause of most perineal lacerations; fully nine-tenths of the whole number are due to this cause. The child is delivered with a little too much force, or the head is turned a little too soon, or the attendant, in turning the head, makes traction too directly with his forceps, and does not turn their handles over the mother's belly.

There is always more or less bulging of the mucous membrane of the rectum in these cases. If this membrane is in your way, do not hesitate to cut it off. I think I have now succeeded in trimming off all the mucous membrane necessary, and so I shall proceed to put in the sutures. I must be very careful with the first and lowest stitch, as it is the keystone of the whole operation. I begin by piloting the needle through the tissues by means of a finger in the rectum. This stitch is the purse-string which is to bring the edges of the perineum together, and so it must always be passed in on a level with the lower verge. The next is put in a little higher, and then I have done with the curved needle. I shall now take the perineal needle and carry it in to the centre of the denuded vaginal surface, first on one side and then on the other. I pass my stitches first up to the edge of the undenuded surface; otherwise I might have secondary hemorrhage. I am using fine iron wire because it is stronger and cheaper than the silver wire. I am particularly careful that no clots or débris of any sort are allowed to remain in the track of the rent, for the presence of any foreign body would prevent complete union of the sides. As there is a tendency to inversion of the edge, I shall trim it. Now that all the stitches are in place, it looks as if the fundament were completely closed up; but it is not so. I am accustomed to use a good deal of firm traction in bringing the parts together: I thus avoid the danger of secondary hemorrhage.

The after-treatment shall consist of enough opium to lull pain and prevent any movement of the bowels for eight or nine days. Before removing the patient I shall put a napkin between her knees

and bind them together. I shall also draw off her water. Never employ a self-retaining catheter in these cases. There is too much danger of its being left in over-long, and so producing cystitis. Have the water carefully drawn twice or thrice daily. This can be done without unbinding the knees,—namely, by flexing the knees and thighs upon the abdomen, the woman being upon her back, and so introducing the catheter. If the woman be annoyed by painful flatus which does not yield to teaspoonful doses of the fluid extract of valerian, a flexible catheter must be introduced into the rectum. On the seventh or eighth day I shall cut and remove every suture except the rectal one. On the morning of the ninth day, four ounces of warm olive oil must be slowly injected into the rectum, followed two hours afterwards by a soap-water enema. Should hardened feces over-distend the rectum, the nurse must break them up either by her finger, a hair-pin, or the handle of a spoon. When the medicine operates, I will remove the last suture. After the bowels have been thoroughly opened, they should be again locked up for four or five days more, and then be kept daily open by a mild aperient. The patient should have her knees bound together, and be kept in bed for at least two weeks, and for fully a week longer should not go out of her room. During this last week she should walk about but little, and keep her knees close together. Should a fistulous opening remain, fuming nitric acid should be applied, and the sides sutured together.

TRANSLATIONS.

CARBOLIC-ACID INJECTIONS IN CHRONIC INFLAMMATORY AFFECTIONS OF THE JOINTS. —Ferd. Petersen, of Kiel, speaks, in the *Centralbl. f. Chirurgie* for March 23, of these injections, recommending them very warmly. They were first proposed by Hüter, since which Petersen has used them in several cases with marked success. One case was that of an otherwise healthy boy of 7, who had suffered for twelve weeks with a somewhat painful inflammation in the elbow-joint, accompanied by only slight swelling. Before the patient came under Petersen's care he had been treated for a

long time with plaster-of-Paris bandage and ice, but without benefit. Petersen injected a hypodermic syringe of a two per cent. solution of carbolic acid into the joint. In this, as in a few other cases, the injection caused pain, and an abscess formed. By the time the latter was healed, some four weeks after the injection, the articular inflammation was entirely gone, and the arm pretty freely movable. The patient disappeared shortly after, but there was every reason to believe that a complete cure resulted. A second case was that of a young girl of 17, who had suffered for four years with articular inflammation about the hand, probably originating in the wrist. The hand was much swollen and very sensitive over the joints. Resection or amputation seemed to offer the only chance of relief, but Petersen concluded to try a carbolic-acid injection as a last resort, and did so. The result was striking. At first every other day, then every third day, and later less frequently, injections of 16m of a two per cent. carbolic-acid solution were made in the carpus, near the joint. Already by the sixth day decided improvement was observed, and from that time the pain and sensitiveness gradually diminished and disappeared. The patient began to use her hand at the end of five months, and in six months "could do anything with it." The third case, which was still more striking in its result, was that of a little girl of 11, who suffered with scrofulous ostitis of the right trochanter, with synovitis of the ankle-joint. A fistula led to the bare bone. This patient was treated in the same manner as the second case. She came to and from the clinic daily, no rest being employed. At the time of the report the foot was nearly well. x.

GASTROTOMY FOR STRICTURE OF THE ŒSOPHAGUS.—F. Trendelenburg gives in the *Wien. Med. Presse (Cbl. f. Med., 1878, p. 94)* the case of a boy, 7 years old, who suffered from narrowing of the œsophagus following the swallowing of lye. The stenosis of the œsophagus progressed until the boy was threatened with starvation. Gastrotomy was practised, which was not followed by any reaction, and within two days the patient was able to take food through the fistula. Within the latter a drainage-tube the size of one's little finger was placed, to which, when the boy wished to take food, a longer rubber tube was attached by a glass tube, the former reach-

ing up to the mouth. The food being finely chewed and insalivated was then forced by a partly blowing, partly reversed swallowing movement down the tube and into the stomach. The patient not only made a good recovery, but gained in four months one-fourth more weight. x.

HEREDITARY TRANSMISSION OF A LOCK OF WHITE HAIR.—The proceedings of the Société *México-Chirurgicale de Liège* contain an account of a curious case which is abstracted by *Le Mouvement Médical* of March 16, as follows. Dr. Rizzoli saw a handsome young woman who displayed over the fore part of the scalp a tuft of white hair, long, thin, and showing a marked contrast to that surrounding it, which was jet-black. It appeared that not only was this peculiarity congenital, but had been hereditary in the Italian family of which the patient was a member, during the last two centuries. The authorities of the city of Imola, of which this person was an inhabitant, have continued the laudable practice of entering upon the town records any extraordinary occurrence of the kind, and it appeared by reference to these, together with an examination of the genealogical record of the family, that forty-five of its members had at various times during six generations displayed the same peculiarity. x.

THE STOMACH-PUMP IN DISEASES OF THE STOMACH (*Berlin. Klin. Wochens., No. 4, 1878*).—Dr. Malbranc, formerly assistant to Prof. Kussmaul, contributes the notes of an interesting case of gastralgia, together with remarks on emptying the stomach and cleansing it by means of the catheter. From the latter part of his communication we abstract the following remarks on the employment of this method:

Unloading the stomach by the catheter or stomach-tube is to be used in those cases where the dilatation of this organ is connected with retention of undigested masses of food, and is to be carried so far as to allow full contraction of the organ when this is possible. In cases of gastralgia entirely dependent upon the accumulation of food within the stomach, the relief gained by simply emptying and washing this is immense.

The removal of irritating masses such as are found in the stomach in chronic dyspepsia and catarrh with pyrosis must alone be of benefit, and when to this is added the introduction of alkaline fluids, solu-

tion of soda, Vichy water, etc., to obviate the influence of the acids on the irritated mucous membrane and to wash these away, it will be seen that the advantage of this treatment is decided. The removal of the collected mucus from the walls of the stomach is a great benefit, since this above all things aids in starting and keeping up fermentation, and in the formation of abnormal acids, as butyric. For this reason washing out the stomach is not only to be recommended in typical cases of dilatation, where masses of food lie constantly in the stomach, but also in those cases of dyspepsia with slight dilatation where mucus and bile are collected in the stomach in the morning and the formation of acids with painful sensations is only experienced after eating. Here, if the stomach is emptied only after meals, of the undigested food, palliation alone can be expected; but if the sound be used early in the morning the cause of the trouble, in the shape of fermenting mucus, is removed, and the affection is in the way of radical cure. Dr. M. here points out that the patient may become demoralized if the habit of emptying the stomach after meals is established. Patients sometimes indulge in all the pleasures of the table, knowing that they can remove with facility what remains undigested three or four hours after the meal. Of course under such circumstances a permanent cure cannot be expected. When the accumulation of gases in the stomach gives rise to gastralgia, the morning cleaning out of fermenting mucus is also beneficial. Dr. M. considers the local warm bath an admirable adjuvant to the other methods. Of course this is to be avoided in cases of perforating ulcers, but when the diagnosis is quite clear it may be used to great advantage, being decidedly soothing to the irritated nerves. The temperature of the water passed in should be high, -98° – 100° F. This aids also in overcoming constipation, especially when used in the morning. The water used by Malbranc is saturated with carbonic acid, which itself acts as a local sedative. In the latter portion of his paper Malbranc describes the method of using the sound. x.

THE CONTINUOUS BATH.—Hans Hebra (*Cbl. f. Chir.*, 1878, p. 89; from *Wien. Med. Wochens.*) has within the last fifteen years treated more than five hundred patients with the aid of the continuous bath. With the exception of some slight local

irritating influence upon the skin, observed in a few cases, no disagreeable symptoms have been observed. The bath has even been continued during menstruation without disturbance. The treatment has been used,—

1. In burns (56 per cent. mortality). Favorable effect upon all symptoms; the effect in allaying pain is remarkable. Scars usually soft and smooth, and movement in no way hindered.

2. In pemphigus. While no cases of *P. vulgaris* proved fatal, a mortality of 81 per cent. was observed in *P. foliaceus*. In the latter affection the patient's condition was only endurable when in the bath. Relapses were not prevented.

3. In confluent variola. All patients in whom the eruption showed itself profusely were placed in a warm bath when the eruption had reached its height, and with the best results.

4. In gangrenous wounds and ulcers, whether of syphilitic origin or not. Of the latter, gangrenous buboes were most frequently thus treated. (Mortality, 12 per cent.)

5. In phagedænic chancres the result was not less happy. In phlegmon and in fistulous wounds which would not heal in any other way, the continuous bath acted surprisingly well. x.

SALICYLATE OF SODIUM IN GOUT.—Dr. Bisson writes to the *Année Médicale* for February the account of a case of refractory gout of twelve years' standing in which this remedy was found of great use. The patient suffered from a severe attack every autumn; most of the joints had been affected, and there were numerous chalky concretions which here and there had ulcerated through the skin. No medicine had been of the least avail. Dr. B. gave the salicylate in doses of eighty grains in twenty-four hours, and with the best results. x.

POLYURIA WITHOUT GLYCOSURIA, FOLLOWING A VIOLENT SHOCK, CURED BY ERGOT.—Dr. H. Rendu (*La France Méd.*, No. 17, 1878) gives the case of a man in good health, who, while rowing in a boat at sea, and at a moment when he was perspiring profusely, was thrown overboard and remained in the water a long time. He experienced no ill effect until the next day, when he was attacked by violent sub-orbital neuralgia with vertigo, which lasted nearly a fortnight. At the end of that

time a new symptom presented itself in the shape of copious sweating, obliging him to change his linen several times during the night; in addition he began to urinate frequently and copiously. His former symptoms now disappeared, and, excepting the annoyance caused by excessive secretion of sweat and urine, he seemed well. It should be added, however, that he showed marked polydipsia and polyphagia, drinking and eating enormously.

When examined by Dr. Rendu, the urine, of which ten litres per diem were passed, was clear and limpid, sp. gr. 1017; examined by the usual reactions, no trace of sugar or albumen was found. Under the use of valerian, the excretion of urine fell to nine litres per diem, but, as it was badly borne, pills of sulphate of atropia were substituted. This medicine reduced the quantity of urine to a little less than eight litres, but it provoked a general condition of malaise, with loss of appetite, headache, difficulty in urination, and excessive thirst, and was therefore diminished in quantity and administered in connection with powdered ergotin. Subsequently the ergot was given alone to the amount of eight grains in the twenty-four hours. While the combined medicines reduced the daily amount of urine excreted to six and a half litres, within a single day from the time the ergot began to be taken the amount of urine diminished to five litres, and it continued to diminish daily. The dose was increased after several days to fifteen grains in twenty-four hours, and the amount of urine had fallen by the end of a week to two litres daily. It should be added that, although the patient eliminated a large quantity of urea (eighty-seven grammes on the tenth day), the liver was quite healthy, to all appearance, throughout.

x.

ORIGIN AND TREATMENT OF EPITHELIOMA OF THE SKIN.—Busch (*Centralbl. f. Chir.*, 1878, p. 174; from *Arch. f. Klin. Chir.*) suggests the following as the probable origin of epithelial cancer as it occurs in the skin. The first hypertrophic layers of epidermis which are formed after some irritation may probably prevent the newly-formed epithelial cells pushing up towards the surface, as in the normal condition they tend to do, and cause them to develop downwards. Relapses are to be explained in the same manner. Holding this view, Busch is accustomed, so soon as

he sees signs of incipient epithelioma in the skin, to soften the upper layers of the epidermis by means of a weak soda solution. Ordinarily he uses this in the strength of 1:100: when, however, the epithelial growth is unusually thick, Busch employs the solution in the strength of 1:40. After the growth is removed, its recurrence is prevented by applications of a half per cent. solution of soda. Busch has succeeded in removing epithelioma of the face by this means even when an ulcer had already formed. The scar and surrounding tissue is to be bathed with the soda solution for some time after the sore is healed.

In addition, Busch recommends that those epithelial collections occasionally found on the nipples of old women should be removed by alkaline applications, and their return prevented by washing with the same from time to time. He thinks that these masses stop up the openings of the small glands and by their pressure upon the acini below favor the development of carcinoma.

x.

OLIGURIA AND POLYURIA OF REFLEX TESTICULAR ORIGIN.—Nepveu (*Centralbl. für Med.*, 1878, p. 96; from *Revue Mensuel*) says that the secretion of urine may be influenced reflexively from the testicle when the nerves of the latter are excited by direct trauma, by inflammation of its substance or that of its tunica vaginalis. In inflammation about the testicle, particularly after the operation for hydrocele by puncture and injection of tincture of iodine, Nepveu has observed the quantity of urine passed during the first few days diminish to one-half the normal, then rise again to a considerable amount over the normal, and finally recover its usual quantity.

x.

FORMULÆ.—*In Chronic Adenitis.*

R Emplast. hydrag., ʒss;

Pulv. opii,

Pulv. camphoræ, aa gr. xiiij.—M.

To be spread as a plaster and applied to the tumefied ganglions.—*Dict. de Méd. et de Thérapeutique.*

Iodoform in Indolent Venereal Ulcers.

R Iodoform., ʒvj;

Glycerin., fʒiij;

Alcoholis, fʒi.—M.

To be applied on lint, and changed not oftener than twice daily.—(Klink: *Vierteljahrsschr. f. Derm. u. Syph.*, 1877, p. 397).

x.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MAY 11, 1878.

EDITORIAL.

JOHNS HOPKINS TRUST.

THE erection of the hospital of this joint trust is now being actively pushed forward. The will of Mr. Hopkins requires that all building shall be out of the income of the estate; but, there being now in hand over \$350,000 of accumulation, it is expected that some five hundred men will be kept steadily employed during the whole of the present season. As the preparation of the ground, such as grading, digging, and draining, was nearly completed last summer, and as much of the heavy foundations was also laid during that period, by next fall very sensible progress will be made in the building. It is estimated that the whole structure will cost \$1,200,000, and hence that it will be four years before its completion.

If, as seems probable, the period of tuition at the medical school of Johns Hopkins University be fixed at four years, two years being devoted to the fundamental sciences, and two to the study of the practical branches didactically and in the hospital, it is evident that two years from now the medical school should be organized. The general plan of this organization has, we believe, not yet been even seriously discussed by the University trustees; and it would be premature to say aught concerning it here.

The cost of the hospital appears at first sight enormous for its size. It is intended, we believe, to contain only three hundred beds: so that it will average forty thousand dollars per bed. This will no doubt give rise to criticism. The curse of stone has blighted so many institutions that it seems as though there were danger here. The

wise provision made by Mr. Johns Hopkins that income only should be used for building-purposes will, however, prevent any injury to the capital, so that the worst that can happen is a delay of two or three years. There is, moreover, a good deal of justification for the proposed outlay. The hospital is to be not only a refuge for the sick, but also a centre of progress for scientific medicine. There will accordingly be an elaborate and costly pathological department, and all forms of special wards and arrangements, etc. The preparation for dispensary service also will be very extensive. Apartments are to be made for twenty-five resident pupils, so as to give as great a number as possible the advantages of practical study, and also to furnish an abundant supply of clinical clerks, registers, etc. It is plain that this educational feature will add much to the cost of the structure; but there is a still more important special cause for expense. It is very naturally desired that there shall be some handsome memorial building to Mr. Hopkins. The site of the hospital is on a high hill in the outer part of Baltimore, as it were standing over, and plainly in view of, the main city. Hence it is admirably adapted to memorial purposes. The income of the hospital is at present, and probably will be for some years, much larger than that of the University. For all these reasons it has, we think, been very properly decided to make an imposing front to the hospital, chiefly formed of the administration building, in memoriam, and to build the University buildings of brick in the simplest manner.

Few trusts seem to us so fortunate as that under consideration, especially in the hospital department. The wisdom of the University trustees is yet largely to be tested. But the extreme caution and good sense which have characterized the action of the trustees of the hospital, under the leadership of their president, Mr. Francis T. King, cannot be too highly praised.

CORRESPONDENCE.

LONDON LETTER.

IT may be well to commence with the second lecture of Prof. Ferrier before the Royal College of Physicians. In this lecture he reviewed the lesions of the motor area. This area, as ascertained by experimentation on the monkey, includes the bases of the three frontal convolutions with those bounding the fissure of Rolando. Stimulation of this region produces, according to the points touched, movements of the arm, leg, mouth, etc., and destruction of them causes paralyzes of all those movements if the entire region be destroyed, and limited or disassociated paralysis if individual areas only be destroyed; the paralysis in this case being confined to those movements which are excited by irritation of the same. This region is supplied by four or five branches of the middle cerebral artery, each branch supplying a certain special area. And the arrangement of these vessels is such that the cortical branches may be blocked by emboli while the inosculation maintain the basal ganglia intact; consequently, softening of the gray matter may and does take place while the basal ganglia remain absolutely intact. The lesions which affect this region may be divided into the destructive and the irritative. Destructive lesions of this area cause paralysis of voluntary motion. In some cases of tumor in this area without loss of motion it has been found that the gray matter was not destroyed, but pushed aside. In lesions produced experimentally on monkeys, paralysis was produced without affection of sensation on the opposite side. Those parts whose movements were most voluntary and least automatic were most affected; thus the arm more than the leg, the hand than the arm, while the muscles of the trunk were least affected. The subject was rendered still more lucid by a number of illustrative diagrams. The lecturer then proceeded to quote cases of cortical disease, as well as traumatic lesion, in man, which corroborated the results attained in monkeys. The paralysis so induced is frequently associated with rigidity or convulsive spasm of the paralyzed parts, particularly in the early stage; and if destruction of the cortical substance is complete, the paralysis is of permanent duration, and sooner or later is followed by late rigidity and secondary sclerosis of the motor tracts. This degeneration of the motor tracts can be traced down the medullary fibres, crus, pons, and pyramid of the medulla, and thence mainly to the opposite side of the spinal cord in the posterior portion of the lateral column. Such secondary degeneration has been found to follow complete destruction of the cortex in dogs. Cases were then related showing that destruction of the cortex in this area led

to permanent paralysis with late rigidity. The early rigidity with muscular spasms which so frequently accompany hemiplegia with effusion into the lateral ventricles is essentially due to irritation of the fronto-parietal fasciculi of the centrum ovale.

The lecturer then proceeded to discuss partial lesions of the motor area. He said that more or less complete hemiplegia of the opposite side did not always involve the whole of the motor area. There was no difficulty in accounting for complete hemiplegia in connection with very limited lesions of a *sudden* character in the motor area, such as hemorrhagic extravasation or a traumatic lesion. In time, however, the symptoms generally disappear, with the exception of those attributable to the part immediately destroyed or irritated. Partial lesions and monoplegia are limited paralyzes corresponding to limited lesions of the cortex, of which several cases carefully recorded by different observers were related. In the case, he said, of the bilateral and antagonistic movements of the head and eyes, it would be natural to look for lateral distortion should the centre in the hemisphere be suddenly removed; and the distortion would be towards the side of lesion, owing to the unantagonized centre which remains. This affords a satisfactory explanation of the conjugate deviation of the head and eyes observed in the early stages of hemiplegia, whether of cortical or ganglionic origin. Certain facts, however, exist to show that this lateral movement of the eyes may be paralyzed singly, or thrown into spasms singly, constituting a unilateral monospasm. In a case where there was most remarkable rotation of the head and eyes to the right, without other contraction or paralysis, a lesion the size of a franc piece was found on the superior part of the middle frontal convolution of the left hemisphere (Chouppe). Then the question of paralysis of the leg was next discussed. From experimentation on the monkey, it would appear that irritation of the upper extremity of the ascending frontal, as well as part of the ascending parietal convolution, produces movements of the leg; that of an area near it, to movement of the tail. Now, in man the hand does much which the tail does in monkeys, and therefore it is necessary to be cautious about applying these results to man. Clinical evidence in favor of distinct centres for the leg and arm, as differentiated from each other, is not yet very extensive. As to these centres lying near each other, the common every-day experience of every practitioner as to leg and arm paralysis occurring together left no doubt as to the fact. A Danish corporal was struck by a shot at the inferior and posterior extremity of the left parietal bone, close to the sagittal suture overlying the postero-parietal lobe. The right leg was immediately paralyzed. The right arm became affected on the seventh day. On tre-

phining, recovery took place,—the arm first, and then the leg. This, he said, may fairly be taken as a cortical lesion, as the subsequent affection of the arm is in accordance with extension of softening to neighboring centres, a feature characteristic of cortical lesions. Another case of fracture of the summit of the right parietal bone by a shot was followed by paralysis of the left leg. In another case, disease at the upper part of the right hemisphere was followed by paralysis limited to the left leg. Other cases were related which went to prove very conclusively that lesions producing crural monoplegia in man were found at spots closely associated with the centres for movement of the legs in monkeys. The lecturer then proceeded to review lesions associated with paralysis of the arm. The centres for the movements of the arms occupy a large area, as might be expected from their importance as organs of intelligence. In a case where the left arm alone was paralyzed, the lesion was situated in the ascending parietal convolution on the right side. Then he related cases of atrophy of certain brain-centres following amputation of a limb. Thus, a case was reported by Chuquet where amputation of the right arm six years before death was followed by atrophy of the upper third of the ascending parietal convolution and corresponding part of the internal surface of the hemisphere. In a case of congenital absence of the left hand, the middle part of the ascending parietal convolution in the right hemisphere was much smaller than the corresponding convolution on the left side. Then as to brachio-facial monoplegia, a case was related where a woman was suddenly seized with paralysis in the right arm and right lower facial region. A hemorrhagic extravasation, the size of a nut, was found in the ascending frontal convolution of the left hemisphere. Then aphasia was discussed, and differentiated from oro-lingual paresis. Aphasia was, as was well known, connected with lesions in Broca's convolution. Aphasia in its true meaning was not speechlessness, but the inability to express thoughts in articulate speech, or to think in words. It was not contended that there was an absolute restriction of the speech-centre to the left hemisphere. It was a significant fact that in several cases of aphasia, connected with a lesion in the right hemisphere, the patients were left-handed. A case of bilateral lesion had been put on record by Dr. Barlow. A boy aged ten, with aortic disease, was seized with right hemiplegia, chiefly brachio-facial, and aphasia. Of this he had apparently recovered at the end of a month. Three months later, he was seized with left brachio-facial monoplegia. This time there was not only aphasia, but also paralysis of all voluntary movements of the mouth and tongue. Reflex deglutition was unimpaired. There was no loss of sensation in the para-

lyzed parts, and the muscles acted normally to the faradaic current. The intelligence was good, and comprehension fair. On post-mortem examination, a lesion was found in each hemisphere, and in exactly corresponding situations. The region involved in the lesion was the lower end of the ascending frontal and the hinder end of the middle and inferior frontal convolutions. Other cases were related which showed that the clinical evidence alone is amply sufficient to establish the relation between aphasia and lesion of Broca's region as an empirical generalization; but the facts of experimental physiology, and the light they throw on the motor substrata of mind, show that the connection between lesion of Broca's region and aphasia is no longer merely an empirical generalization, but a derivative law, established, in his opinion, on as firm grounds as any other fact in scientific medicine.

As to the diagnosis of cortical lesions, it was stated that it was not always clearly distinguishable betwixt lesions of the motor area of the cortex and those of the corpus striatum, more especially those involving the anterior two-thirds of the internal capsule. In each case the parts most paralyzed are those most volitional. The arm is more paralyzed than the leg; the hand than the arm. The sensation is not affected by a lesion confined to the motor area. The late rigidity which follows paralysis is due to degenerative changes going on in the motor tracts connected with the seat of the lesion. The temperature of the paralyzed limb in cortical paralysis is not markedly altered. In cortical affections a hemiplegia will often resolve itself into a monoplegia, as, for instance, a patient has hemiplegia and recovers all but the use of the hand. Cortical paralysis is often erratic and transitory, more especially in connection with superficial meningo-encephalitis, appearing and vanishing, first on one side and then on the other. According as the lesion is superficial or deep and invading the whole depth of the cortex and sub-jacent medulla, do we get transitory paralysis, or a paralysis which remains permanent and followed by descending sclerosis and late rigidity. Early rigidity is of frequent occurrence in cortical disease, and rare in central cerebral disease. Consciousness is less frequently lost in cases of sudden cortical lesion than when similar disease occurs in central ganglia. Cortical lesions are frequently associated with localized pain in the head, and, in his experience, where pain was not already present it could be brought out by percussion over the seat of lesion.

Irritative lesions of the motor area are indicated by localized spasms, which may run into a unilateral convulsion. They are due to irritability or hyperæmia of the cortical gray matter or sub-jacent medullary tracts, or to local disease. According to Hughlings

Jackson, the lesion causes the centres to become charged to a state of high tension, so that, under certain vital conditions, they discharge themselves in a sudden and explosive manner, and become exhausted for the time being; hence the consequential temporary loss of power in the affected parts. An irritative lesion may proceed to permanent destruction of the part with permanent paralysis and secondary sclerosis. "Jacksonian epilepsy" has, in its early stages, often the character of a monospasm. When the convulsion becomes bilateral, as is sometimes the case, the spasms are reversed in order; that is, if the first pass from the leg to the face, they descend on the opposite side, and *vice versa*. The lecturer then related a number of cases showing that localized spasms were connected with definite lesions in their corresponding motor areas.

Lesions of the sensory regions formed the first subject of the third lecture. He pointed out how experiment had led to the conclusion that sensation was located in the occipital and parieto-temporal lobes. He had considerable doubts as to the trustworthiness of anatomical localization: it was valuable taken along with other evidence. When the occipital lobes in the monkey are destroyed, the animal ceases to eat, an occurrence not seen in destruction of any other part of the brain, and therefore in his opinion associated causally in some way with this lesion. Lesions of the occipital lobes are, as a rule, *latent*. Up to the present time facts do not enable us to generalize with certainty as to the special effects of lesions of the occipital lobes. The remainder of Prof. Ferrier's last lecture will be given briefly in the next letter. Schroeder van der Kolk and Laycock both asserted that the occipital lobes are in connection with our systemic sensations, our sense of well-being or of not feeling well. They are supplied by the basilar artery before it reaches the circle of Willis, and have a vaso-motor supply to their blood-vessels apart from the other portions of the brain. Consequently it has been stated that conditions of low spirits or depression amounting even to melancholia, where the intellectual powers are not implicated or impaired, are due to morbid conditions of the occipital lobes. It will be interesting to learn what Prof. Ferrier has to say about this.

An important discussion has gone on at the Pathological Society on the Diseases of the Lymphatic System. Dr. Samuel Wilks commencing by giving an account of the original specimens of Dr. Hodgkin, which were exhibited. They consisted of enlarged glands in different parts of the body. The enlargement of these glands was a primary and not a secondary change. It consisted of a general hypertrophy of all the tissues of the glands, without any tendency to suppuration. There were usually changes in the spleen, which were neither cancer nor scrofu-

lous disease. The disease, however, had malignant characteristics, as these enlarging glands had been known to eat their way into the trachea and bronchi. There was no leucocythæmia in Hodgkins' disease. Dr. Greenfield described leucocythæmia and lymphadenoma, pointing out how essentially different they were. In only one of his thirteen cases of lymphadenoma was leucocythæmia present. He described the high temperature which was found in cases of enlargement of the glands. Subsequent speakers brought forth cases and observations which showed conclusively that these two maladies were distinct from each other, even though they might be found together. Such a case was related by Dr. R. O. Jones, where there was great enlargement of the axillary glands, and high temperature. When the blood was examined under the microscope, the white blood-corpuscles were found in great excess. The temperature rose to 101° F. in the morning, and 103° in the evening. There was persistent diarrhœa. The leukæmia he thought was not due to the growths, but to defective formation of blood-corpuscles. Sir William Gull related the clinical history of the case of an eminent nobleman who died a few years ago with increasing languor and anæmia. All treatment was inoperative. The whole history of the case was negative. In consequence of the absence of obvious cause of the condition of anæmia, Dr. Dickenson was asked to perform the post-mortem. The necropsy was as negative in its results as the clinical history. The only disease was in the blood itself. It was a case of pernicious anæmia. There are three conditions, then, quite separate from one another,—lymphadenoma, leucocythæmia, and idiopathic anæmia. Sir William Gull made the statement that when the spleen became enlarged in malarial disease, the pyretic attacks ceased.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 14, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Abscess of liver, and emphyema. Presented by Dr. E. T. BRUEN.

JOSEPH DONNELLY, æt. 22, single, was admitted to the Philadelphia Hospital November 2, 1877. He complained, on admission, only of indigestion and malaise, which he had noticed for two weeks. He had always been a healthy man; he had never suffered from syphilis; his occupation had been that of a laborer. His family history was imperfect, as he had not seen his parents for some years.

On examination of his chest, which I made as a routine practice, my attention was arrested by the marked accentuation of the second sound of the heart over the aortic valves. This led me to make a careful examination, and I found there was dulness upon percussion on the right side of the chest in the axillary region, from the sixth rib to the base of the chest, extending anteriorly to within two inches of the nipple-line; beyond this point the dulness usually occasioned by the presence of the liver was noted, which dulness extended, however, nearly an inch and a half below the margin of the ribs; there was no movement of the liver upon forced inspiration. Over the remainder of the anterior portion of the chest good resonance could be obtained. Posteriorly the dulness in the axilla extended to the angle of the scapula; elsewhere there was resonance. The respiratory murmur over the resonant region was feeble; over the dull portions of chest, very faint and distant.

Upon the left side nothing unusual was noted. On the 8th of November, a swelling was observed on the right side, including a space over the seventh, eighth, and ninth ribs, which was painful on pressure. He suffered especially if the ninth or tenth rib was pressed upon from behind, the pain being located anteriorly near the position of the swelling. I inferred that the ribs last mentioned were diseased. At this time he commenced to expectorate purulent matter with cough, and his temperature, which had been normal, with the exception of the day of his admission, when it was 102° F., rose to 100° F. The expectoration came up in large amount, several mouthfuls at a time, mostly when he was in the recumbent position. Sometimes he would pass the entire day without expectoration, again would be choked by it.

From the 9th to the 16th, he suffered from hectic and sweating, temperature ranging from 99° to 104°. On the 16th, believing there was a purulent collection in the pleural cavity, or in the liver, an exploring needle of an aspirator was introduced into the ninth interspace at seat of pain and swelling, selecting this position on account of the doubt in the diagnosis. Simply a bloody fluid was obtained. On the 21st the needle was again introduced through the eighth interspace, and eight ounces of pus removed, and the cavity injected with a dilute solution of Lugol's iodine, gr. x to f $\frac{3}{4}$ i of water. The external swelling, however, still increased, and the hectic was unchanged.

About the 29th, there appeared to be a circumscribed pneumothorax at the position mentioned above, as amphoric breathing and tympanitic resonance replaced the dulness. On the 29th, therefore, he was etherized, and my colleague, Dr. J. Wm. White, cut down upon the swelling and introduced

a rubber drainage-tube in the eighth interspace, at the anterior border of the axillary region, and brought out the tube in the same interspace, about four inches posteriorly. Very little pus was evacuated at the time, for most of it had been previously expectorated through the bronchial tube. The operation was more difficult than is usual, on account of the infiltration of the thoracic wall.

For the following three weeks the hectic was checked, and the patient gained in flesh and strength, becoming able to walk about the ward; the temperature being always below 100° F.; no sweating. Drainage at first took place freely, and for the last two weeks in December in diminished amount. The cavity was injected daily with dilute solution of iodine (Lugol's solution) or carbolyzed water, coughing never being occasioned unless the solutions were made strong of iodine. He always tasted the substance with which he was injected. The incision into the chest-wall, made to introduce the tube, healed completely, the infiltration disappeared, and he seemed to be doing very well. His appetite and digestion also improved decidedly, but occasionally he would suffer from attacks of hiccough. After the 17th of December, however, his temperature rose every night to 101° F., and he ceased to improve.

January 1, he passed out of my hands, as my term of service expired, and he died of acute pleurisy on January 6, 1878.

Post-mortem examination.—Upon opening the chest, the right pleural cavity was found to be completely filled with a recent pleuritic effusion, sero-fibrinous in character, the lung occupying the lower portion of the pleural cavity, near the diaphragm and vertebral column, and flattened to about the size of a man's hand. It was bound down in this position by adhesions. The fifth and sixth, eighth, ninth, and tenth ribs were found to be diseased; the chest-wall over the lower ribs was very much thickened, and contained a small amount of pus, which was confined by adhesions between the liver and the diaphragm. An opening through the diaphragm allowed this pus to communicate with the lung or the pleural cavity. The drainage-tube was found at this place surrounded by the lung, which had been compressed upon it by the recent pleurisy, the compression being aided by adhesions. In the upper part of the right lobe of the liver there was an abscess about the size of an orange, the cavity of the abscess being distended with contained pus, and which communicated with the abscess in the thoracic wall by an opening which was so small and tortuous that the abscess did not empty itself. The remainder of the liver-tissue was soft and fatty. The intestinal canal was examined throughout, but found healthy. The kidneys were nearly normal, though slightly fatty.

Remarks.—The improvement of the patient's condition after the drainage-tube had been introduced is worthy of attention. The hectic for several weeks was totally checked. The cavity appeared to grow smaller during the treatment by injections, for at the time of the operation a probe could be moved about readily in different directions. As previously stated, an hepatic abscess was suspected at first. The even range of the temperature for so long a time was favorable to this hypothesis. Dr. Murchison states that cases of hepatic abscess are often mistaken for remittent fever on this account.

The liver itself, though extending an inch and a half below the ribs, was stationary when a full inspiration was taken, which Frerichs considers an important evidence of empyema, as in abscess of the liver the descent of the diaphragm on inspiration will depress the liver. The physical signs and expectoration appeared to indicate an empyema with perforation into a bronchial tube.

The disease of the ribs I always suspected was the cause of the empyema, but from the absence of any history of local injury, or of syphilis, I could not feel sure the disease was not secondary. In the light of the post-mortem, it appears to me the sequence of these lesions was first the abscess in the thoracic wall, which caused, by extension of inflammation, an abscess in the liver, which abscess subsequently perforated the diaphragm and pulmonary tissue and was expectorated through the bronchial tube, the empyema being a separate lesion, or else the empyema resulted from the perforation of the diaphragm, really being a part of the first abscess.

I have read recently some interesting cases in the *London Lancet* for November 17, 1877, reported by Dr. Fenwick, of abscess of the liver perforating the diaphragm, and being expectorated, with symptoms very similar to this case.

There is one other consideration in reference to the abscess which it is only right should be stated, viz., the possibility that at the time of the first puncture, when I obtained only blood, the liver was penetrated. But I claim that the operation, even with this risk, was justifiable, because there was distinct fluctuation where the needle was introduced. If the abscess in the liver had been reached by the aspirator, a cure might have resulted.

Dr. GUITÉRAS said that this case was admitted to the Philadelphia Hospital soon after the death of the case of abscess of the liver, presented by him to the Society some weeks ago. For a time the temperature of Dr. Bruen's patient ran a remarkably regular course, like to a malarial fever. This, you may remember, was a marked feature of his own case. In the present instance he never gave up the diagnosis of abscess of the liver,

though the symptoms became subsequently masked by the disease of the ribs and of the pleura. The very low position of the pain and tenderness also pointed to abscess of the liver. It would have been interesting to study this case in the light of the observations made by Fenwick (*London Lancet*, November 17, 1877). He reports several cases where liver-substance was found in the pus discharged from abscesses of that organ. Liquefying the pus by adding a little ammonia, he found in the sediment the liver-cells more or less disintegrated.

Some time ago Dr. G. reported to the Society that since July of 1873 there had been in the men's medical wards of the Philadelphia Hospital eighteen deaths from empyema; that in every one of these cases the operation of paracentesis had been performed more than once; that in some of them different operative procedures had been tried; that in the great majority of them the effusions, primarily serous, had been converted into purulent by the operation; that, excluding the operations for passive effusions, these eighteen cases included the great majority of those operated upon within this period, since the most careful search failed to find more than three successful results; one was of traumatic origin, the other was a comparatively recent effusion, and the third he knew nothing about. In these three cases the effusion never became purulent.

Within the last eight months the operation has been performed in two cases; this is the second one; the first also terminated fatally; a third one is now at the point of death in his wards of the hospital (and has since died).

He did not think the atmosphere of the Philadelphia Hospital was a bad one. With a population of nearly 4000 in the whole institution, it may be said that septic diseases do not prevail there; diphtheria never; typhoid fever very seldom originates in the house; and when introduced, they do not tend to spread. He thought pyæmic infection was not frequent in the surgical wards. An obstetrical department is out of place in an institution of this kind, and it is no wonder that septicæmia prevails there. Our patients do not get the best of diet, and they are frequently men broken down by excesses; yet the influences of these degradations of the constitution are not shown to such a fearful extent in other diseases.

This operation is a rational one. He knew it had been very successful in the hands of some, specially Dieulafoy, who has given particular attention to all the details; but, as usually performed, it needs perfecting, and we will never perfect it if we deceive ourselves as to its dangers.

Dr. STARR said that, in regard to the results of the operation of paracentesis thoracis, the experience of Dr. Guitéras in the wards

of the Philadelphia Hospital did not correspond with his own at the Episcopal Hospital, since, so far as he remembered, nearly all of quite a number of operations performed during his connection with the latter institution had been successful; in some instances a permanent cure resulting, while in other complicated cases, where no termination but death could have been expected, great relief was afforded, and life unquestionably much prolonged. Not to multiply examples, during his last term of service several patients were subjected to the operation. From one case of acute pleurisy, with effusion in the left pleural cavity, a considerable quantity of serous fluid was withdrawn; the man's condition improved rapidly, and he left his bed convalescent in ten days. When discharged, a month afterwards, there were no evidences of fluid in the pleural sac, nor were there any six weeks later, when he visited Dr. Starr at his office, although he had undergone much exposure in the interval.

The second patient had been tapped upon several occasions for empyema of the left side, and had worn a drainage-tube. When admitted to the hospital he was very weak and emaciated, and suffered from hectic fever, profuse night-sweats, and cough; there was a slight purulent discharge from an opening in the seventh intercostal space, through which the drainage-tube had been passed, and upon introducing a small flexible catheter about six ounces of pus, having a faint disagreeable odor, flowed away. For some time the pleural cavity was washed out through this opening, without much improvement in either the local or constitutional condition. Subsequently a free opening was made into the pleural cavity in the eighth interspace, a drainage-tube introduced, and the cavity washed out daily with a weak solution of carbolic acid. After this the improvement was rapid, and at the present time there is little or no formation of pus, no hectic fever, night-sweats, or cough, and the patient has gained more than fifteen pounds in weight, and feels well and strong enough to work. Here, of course, the ultimate result is still doubtful, but the prospect is bright.

In a third case, one of pneumo-pyothorax occurring in the course of phthisis, the left chest was punctured twice, and a large quantity of pus evacuated: first operation, November 18, thirty-six ounces; second, December 18, sixty ounces. In this case the operations were undertaken to relieve distressing symptoms, and were more than satisfactory in their results. He thought, therefore, that a sweeping condemnation of the operation was unjustifiable.

Dr. LONGSTRETH thought that diagnosis of abscess of the liver, by examination of the pus during life, was very uncertain. There was a case some time since in the Pennsylvania Hospital which presented the symptoms

of an abscess of the liver. The pus was drawn and examined, but from the character of the cells no conclusions could be determined upon. Dr. L. did not think the method of Fenwick could be borne out, since in an abscess of the thigh we do not find muscular fibre. With bone it is different, as we find calcareous particles; but we cannot say they are bone-cells.

Dr. GUITÉRAS said he did not think any doubt could be thrown upon the value of these observations. Fenwick goes even so far as to attach prognostic value to them. When the liver-cells are found in abundance, the breaking down of liver-substance is progressing, and the prognosis is unfavorable; when they are absent or very much disintegrated, he has found the result more favorable. In a case of suppuration of a cyst, he only found the calcified remnants of hydatids.

Those cases in which a spontaneous opening occurred externally, he believed, do better than those operated upon. Whilst this fearful mortality has been going on in the wards of the Philadelphia Hospital, he has had under observation, in the same wards, for four years, a case of empyema with an external fistula which died a few weeks ago of pericarditis, with pneumonia of the healthy side.

The operation is more favorable in children, probably on account of the elasticity of the chest-walls. All the cases he had reported were adults, and their histories were followed out to the end. Unfortunately, this is not always done, and many incomplete histories are published as cures. He believed also that in this, more than in any other serious operation, the unfavorable results did not reach the light.

GLEANINGS FROM EXCHANGES.

THERAPEUTICAL VALUE OF QUINETUM (*The Practitioner*, February, 1878).—As the result of a practical inquiry into the actions and uses of quinetum, Dr. H. J. Vinkhuysen has come to the following conclusions:

1. The only malarious disease in which quinetum cannot be employed in place of quinine is pernicious fever. Quinetum requires more time to act than quinine, and, as rapidity of action is absolutely necessary in this disease, quinetum cannot be used in it as a substitute for quinine.

2. In all forms of pure malarial intermittent fever, quinetum has the same apyretic effect as quinine, but is less powerful, and acts more slowly. It must therefore be given in larger doses and at longer intervals before the ague fit than quinine.

3. Quinetum does not produce the unpleasant and even dangerous symptoms of quinine when given during the fit, and may be taken

at that time without causing any unpleasant feeling.

4. Quinetum never causes noises in the ear.

5. Persons who are liable to suffer from the toxic effect of quinine, and who, therefore, cannot take it without the greatest discomfort, can take quinetum without this unpleasant effect and yet obtain a similar therapeutic result.

6. The influence of quinetum in chronic cases is greater than that of quinine.

7. The tonic action of quinetum is similar to, and perhaps even greater than, that of quinine.

8. The action of quinetum in cases of masked or larval malaria, and especially in rheumatic affections due to malarious influence, is incomparably greater than that of quinine.

CÆSAREAN SECTION (*The Clinic*, February 23, 1878).—Dr. George E. Walton reports, at some length, a case of Cæsarean section in which the child was saved, but which resulted unfavorably to the mother, and from which, together with an elaborate review of the subject, he draws these conclusions:

1. In the case reported, Cæsarean section was justifiable, as the result proved.

2. Cæsarean section should be resorted to in all cases where the antero-posterior diameter of the superior strait is two and one-half inches or under and gestation has advanced to the ninth month.

3. Every effort should be made to perfect the operation of Cæsarean section, and its use in the cases mentioned encouraged.

4. Craniotomy should be discouraged, and its use restricted to the narrowest possible limits.

THE LOCAL USE OF SOLUTION OF QUININE IN CHRONIC IRRITATION OF THE BLADDER (*The Lancet*, February 23, 1878).—Mr. T. W. Nunn has been using quinia locally for some years as an antiseptic, a bactericide, and in some forms of venereal sores. He says, however, that, so far as its local use is concerned, the most striking result is obtained by injecting the solution of quinine into the bladder in those cases where the urine is loaded with pus and is *intensely offensive*, the bladder being irritable, the desire to urinate recurring every hour, or more often, for example, where the bladder only imperfectly empties itself, or when the continual use of the catheter is called for in enlarged prostate, or in atony of the organ. Mr. Nunn has recently been informed by a patient who has habitually had recourse to the catheter,—the urine voided being alkaline and highly offensive,—that the injection of the quinine solution has been followed by such an abatement of the sensitiveness of the neck of the bladder that the desire to micturate comes on now only after the lapse of six or seven hours, in place of after the lapse of every hour or every hour and a half.

The following is the method of using the quinine as a bladder injection. Dissolve twenty grains of disulphate of quinine in twenty-five ounces of water by the aid of a few drops of dilute sulphuric acid or a teaspoonful of *common brown vinegar*. Of this solution inject into the bladder two or three ounces, and let it remain.

MISCELLANY.

EDUCATIONAL ENCOURAGEMENT IN GERMANY.—The budget of the German Empire for the current year comprises several important sums destined to promote the advance of knowledge in various departments of medical science. Among the principal we note 90,000*l.* for an ethnological museum; 85,000*l.* for the establishment of new clinical courses; 60,000*l.* for a pharmaceutical institute and its dependent laboratory. In addition to these, but in one instance less directly connected with medical science, are grants of 400,000*l.* for the erection of a polytechnic school, and 57,000*l.* for new clinical courses.—*Medical Examiner*.

THE LATE DR. FRANCIS GURNEY SMITH was born in 1818, in this city. During a protracted professional career he filled successively a number of our most important hospital positions, and became widely known as an excellent and successful clinical teacher. He also enjoyed for many years an extensive practice among the best circles of our city, for which he was indebted not only to his professional skill, but also to a courtesy of manner remarkable even among those most cultured and finished in this particular. It is chiefly, however, as a teacher of physiology that he has claims to public recognition. In 1842 he entered upon this portion of his career in a private association, and in 1852 he was elected professor in the now defunct Pennsylvania Medical College. In 1863 he succeeded Prof. Jackson in the University of Pennsylvania, which position he held until his resignation was necessitated last year by failing health. As a lecturer, Dr. Smith was always exceedingly clear and forcible, and was especially characterized by the elegance of his diction and delivery. During the course of his life Dr. Smith performed a large amount of editorial labor, partly in the adaptation of various foreign works for the American market, and partly in the line of journalism. During the last years of his life he was engaged upon a general treatise upon physiology, which he was finally forced, by failing health, to abandon. Among his occasional contributions to periodical literature, his experiments upon gastric digestion in the case of the notorious Canadian, Alexis St. Martin, are foremost in permanent value.

NOTES AND QUERIES.

HOMEOPATHY AGAIN.

No. 1835 CHESTNUT ST., PHILADELPHIA, April 22, 1878.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—The guarded, yet strangely significant, *vote of want of confidence* in the doctrine of Similia similibus curantur, lately passed by the New York Homœopathic Association, and reported in your last issue, can scarcely fail to undermine the faith of many of its dupes in this great foundation of homœopathy. It therefore seems an appropriate time for me to present in your columns a suggestion offered in my recent introductory lecture on "Medical Skepticism and Medical Superstitions," at the University of Pennsylvania, trusting that it may contribute to shake simultaneously that other chief abutment of the system, *a belief in the power of infinitesimal doses*, and so, perhaps, aid to realize the anticipation that homœopathy, as a blot upon the boasted intelligence of the present age, will be obliterated before the end of our century.

My proposition is contained in the following extract:

In dealing, as you will frequently be called upon to do, with the great medical superstition of our own day, I would recommend you not to ridicule, still less to abuse homœopathy, to its adherents, but quietly point out to them that, since it claims to rest its principles solely upon observation, the way to test the reality of these claims is to observe its effects upon some individuals who are not prejudiced in favor of the system. If the fairness of this proposition is admitted, as it probably will be without hesitation, at once defy your interlocutor to give you any homœopathic medicine which will produce any effect whatever upon your organism. The only stipulation you need make is, that you shall see with your own eyes the drug selected, reduced to its fourth or fifth centesimal dilution; and no additional danger is incurred by allowing the direction of Hahnemann in his Organon, that the vial in which the successive dilutions are performed shall be shaken, "twice only, first carrying the arm up and then down," to be strictly carried out. I have myself offered this challenge to at least a hundred devotees of homœopathy, including several so-called physicians, and though it has several times been accepted, with the triumphant alacrity so common among experts in the game of bluff, *somehow or other, something* has always, thus far at least, prevented them from carrying out their part of the agreement, so that none of them have ever yet dared to try the proffered experiment upon my stomach. Perhaps I should just remind you that the authorized formula for preparing homœopathic medicines is to take one drop of the mother tincture, for example, tincture of aconite, and shake it with ninety-nine drops of alcohol, thus producing the first dilution or first potency; next, take one drop of this diluted tincture (of the strength of one per cent.) and shake it with another ninety-nine drops of alcohol, giving us the second dilution or potency; which you observe is of a strength, or rather weakness, equivalent to one drop of the original tincture in ten thousand drops of pure alcohol. The third dilution is obtained by a repetition of the same process, and so on indefinitely, the twenty-fourth dilution having, according to the late Prof. Sir James Simpson, a strength equal to one grain of the original drug, dissolved in an ocean of fourteen quintillion cubic miles of alcohol, or a quantity sufficient to make one hundred and forty masses, each extending from limit to limit of the planet Neptune's orbit. It will doubtless do away with any natural hesitation you might feel out of consideration for your own valuable digestive apparatus, in offering my defiance as above advised, to know that the fifth dilution has a strength about equal to one grain (of morphia, for example) dissolved in five thousand barrels of alcohol. Since the solution of one drop of concentrated hydrocyanic (prussic) acid, probably one of the deadliest poisons known, to a single barrel of fluid, could be taken with impunity in doses of a quart or more, there is no doubt that this fifth centesimal dilution of aconite, belladonna, nux vomica, or any other homœopathic remedy, being, as just stated, a mixture in the proportion of one grain or drop to about five thousand barrels of alcohol, may be looked upon as a pre-eminent safe preparation; only be sure, gentlemen, that the alcohol employed is pure, and contains by accident or otherwise no poisonous ingredient.

Of course, the failure of a disciple of Hahnemann to produce any effect upon you with any of his medicines gives you a crushing argument against his so-called system of cure; and indeed who can say that an organized effort on our part to systematically and persistently wring from devotees of homœopathy such tacit admission of the utter impotence of their boasted infinitesimal doses, might not hasten the downfall of this gigantic medical delusion, and, by establishing the literal downright truth in regard to one of its fundamental

dogmas, help to wipe out the blot which it constitutes upon the intelligence of the nineteenth century, even before our own generation passes away?

Many professors of homœopathy claim to produce, as did Hahnemann himself, more powerful effects from the high than from the low dilutions; but the truth is, as I believe, that when any effects (which are not merely apparent, and the results of imagination, coincidence, etc.) do occur, they follow the fraudulent administration of ordinary official doses of our usual medicines, a deception for which the homœopathic druggists provide, by selling what they call decimal, instead of centesimal, dilutions and triturations of potent drugs, such as morphia, arsenic, strychnia, etc., the first of which dilutions contains one grain or drop of the "remedy," to every nine grains or drops of the vehicle employed.

Here for example I show you a bottle, which I myself purchased some years since at a homœopathic pharmacy, purporting to contain the second decimal trituration of acetate of morphia. Of course any individual who took five grains of this powder every half-hour for two hours would swallow (unless it is a double, instead of a single fraud) about one-fifth of a grain of the salt of morphia; that is, rather more than our own customary full dose for an adult.

Hoping that this plan of investigation may appeal not only to members of our own profession, but even to followers of homœopathy who are not yet so blinded as to be no longer seekers after Truth,

I remain very respectfully yours, etc.,
JOS. G. RICHARDSON.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM APRIL 21 TO MAY 4, 1878.

HEAD, J. F., LIEUTENANT-COLONEL AND SURGEON.—Assigned to duty at Boston, Mass., as Attending Surgeon and Examiner of Recruits, and upon arrival there report by letter to the Commanding General, Division of the Atlantic. S. O. 85, A. G. O., April 20, 1878.

HAMMOND, JOHN F., LIEUTENANT-COLONEL AND SURGEON.—Assigned to duty as Post-Surgeon at Fort Adams, R.I., relieving Surgeon Campbell. S. O. 71, Department of the East, April 24, 1878.

CAMPBELL, J., LIEUTENANT-COLONEL AND SURGEON.—Relieved from duty in Department of the East, and to report in person to Commanding Officer, Department of the South, for duty as Medical Director of the Department, relieving Surgeon Head. S. O. 85, c. s., A. G. O.

ALEXANDER, R. H., MAJOR AND SURGEON.—Having relinquished unexpired portion of his leave of absence, to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 85, c. s., A. G. O. Assigned to duty as Post-Surgeon at Fort Trumbull, Connecticut. S. O. 71, c. s., Department of the East.

RANDOLPH, J. F., MAJOR AND SURGEON.—Relieved from duty in Department of the East, to proceed to his home, and report his arrival by letter. Authorized to remain there on monthly certificate of disability until his health is sufficiently restored to resume duty. S. O. 90, A. G. O., April 26, 1878.

YEOMANS, A. A., CAPTAIN AND ASSISTANT-SURGEON.—To proceed to Fort Griffin, Texas, relieve Assistant-Surgeon D. G. Caldwell, and receipt to him for all property, and on completion of this duty return to Fort Richardson, Texas. S. O. 89, Department of Texas, April 25, 1878.

LORING, L. Y., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at St. Louis Barracks, Mo. S. O. 85, c. s., A. G. O.

TURRILL, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Clark, and assigned to duty at San Felipe, Texas. S. O. 90, Department of Texas, April 26, 1878.

COMEGBY, E. T., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at San Felipe, and assigned to duty at Fort Clark, Texas. S. O. 90, c. s., Department of Texas.

PERLEY, H. Y., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, providing he furnish proper medical attendance, at his own expense, at his station, Fort Pembina. S. O. 49, Department of Dakota, April 25, 1878.

BUELL, J. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas. S. O. 86, A. G. O., April 22, 1878.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MAY 25, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE ON CHRONIC ALCOHOLISM.

BY WM. H. THOMSON, M.D.,

Professor of Materia Medica and Therapeutics in the Medical Department of the University of the City of New York.

GENTLEMEN,—The first patient I shall show you this morning is a man 50 years of age, who says he has come into the hospital on account of "general debility," and whom I now purpose to question more particularly as to his condition.

[The professor here, by a series of questions, elicited the symptoms of the case.]

Now let us briefly recapitulate the symptoms of this case. The patient complains of great weakness of the limbs, not confined to either side of the body, and has a good deal of tremor with it. There is no double or disordered vision, apparently; but there is dizziness of the head, frequently associated with a sense of falling. The man tells me that he always carries a cane to steady himself in walking, and that when he lifts himself up after stooping down for any purpose, the dizziness is very troublesome indeed. His eyesight is not as good as formerly; he always has a very poor appetite; and he always sleeps very badly; finally, he has a cough, which annoys him only at night, but is then frequently so severe, he informs me, as to make his throat sore the next day from the effort.

Before proceeding any further, let us examine a little more particularly the character of the tremor here present. It is not the tremor of paralysis agitans, because if this were a commencing case of that affection the patient would have a characteristic walk, which is not seen here. A very early symptom, associated with the commencing tremor in paralysis agitans, is an alteration in the gait. This is caused by a tendency to throw the body forward, so that the patient walks on his toes. The feet are not lifted from the ground, however, and thus a shuffling gait is produced. The soles of the shoes worn by any one suffering from shaking palsy

always give out at the toes first. Another characteristic feature of the gait in this disease is that, although the body is thrown forward, the head is carried erect and looking steadily forward, there being an instinctive effort on the part of the patient to balance himself carefully in walking. Whenever you observe this peculiar gait, you should always look for tremor in the individual, and be prepared to make the grave prognosis belonging to paralysis agitans; but in the present case, although we have more or less tremor, the characteristic gait is absent, and we can therefore, fortunately, exclude that progressive and fatal disorder.

On the other hand, if there is commencing locomotor ataxia, instead of paralysis agitans, the patient puts his heels down first in walking; while if there is paraplegia present, the patient walks with a "spreading gait," as it is called. He separates the feet as far as possible, so as to make a broader base of support for the upper part of the body. The gait in hemiplegia also is highly characteristic. In this condition (unless it is of hysterical origin) the foot upon the affected side is brought around with a swing in walking, and in well-marked cases describes a complete semicircle. In hysterical paraplegia the paralyzed limb is dragged after, and not swung around, the other one. But in the case before us you observe that the patient when he walks does not step first either upon the toes or the heels, does not spread his feet apart, and does not swing one leg around, or drag it behind the other.

Now for your diagnosis. As you have just seen, we have been able to exclude a whole batch of nervous affections; and yet this man undoubtedly has some serious trouble. The first diagnosis that I have suggested is "general debility;" and the second, "chronic alcoholism." The latter is a very good one, and can be thoroughly substantiated. We have tremor, associated with loss of appetite and poor sleep, of long standing; and I think there can be no doubt that there is commencing nervous disease, due to alcoholic drinking. If taken in hand now, it may progress no further; but if the habit is still kept up, it may go on to paralysis agitans, amaurosis, or other grave difficulty.

The next patient is a man of 34, who

also complains of great dizziness of the head. It is of comparatively recent origin, but is pretty constant, and especially troublesome when he first rises after stooping down. For a second or two, he says, he cannot see anything at all; but when he does recover his sight there does not seem to be anything abnormal about it. He feels the dizziness sometimes even when he is sitting down. Like the other patient, he has some cough, but he does not think it is worse during the night than the day. He expectorates considerably, and has sore throat frequently. The act of coughing makes him dizzy now, and this was not the case formerly. When he extends his arms, you observe the same tremor as in the other case, and also that it is more marked when the hands are supinated than when they are pronated. This is because it is a true muscular tremor, and the stronger muscles are thus brought into a position the most favorable for its occurrence. Here, as before, we may exclude the various affections previously mentioned; and I might add that in both cases we can also exclude paralysis of the insane. That is due to a chronic meningitis; and it is worthy of remark, in connection with it, that when a patient affected with it is walking, and wishes to turn in another direction, he has to come to a stop before he can do so. So, too, if you address such a patient while walking, he has to stop before he can reply to you.

Next let us inquire what there is in common between this man and the other. There are at least three things, viz., tremor, cough, and a fear of falling. It is a curious fact that this latter symptom does not belong to either locomotor ataxia (except perhaps at night) or paralysis agitans. Although patients with both of these affections are very liable to fall, they do not seem to experience this fear of it which is exceedingly characteristic of alcoholism. If a patient tells you that he is frequently afraid of falling in the street (and yet has no true vertigo), you will be justified in at least suspecting this latter condition. This sensation of falling not infrequently comes over such persons while walking, and frightens them to such an extent that a cold perspiration starts out all over them. The dizziness and derangement of vision after bending over or stooping down are also characteristic of alcoholism.

The paralysis is not local, as is the case in paralysis agitans, locomotor ataxia, progressive muscular atrophy, and true hemiplegia, but is of a general character. Nor is the tremor violent, like that of paralysis agitans. The trembling of a patient with that affection will not infrequently shake the whole bedstead upon which he lies, and I have seen it cause audible vibrations between a plate and tumbler at the other end of the room. The tremor of chronic alcoholism is more like that of old age.

If these cases would only stop here, the prognosis would not be an unfavorable one for either of the patients; but, unfortunately, they are liable to progress to much more serious, or even irremediable, trouble. A large proportion of the cases in every insane asylum and hospital for paralytics, as well as many cases of total loss of sight or grave derangement of vision, are due solely to alcoholism. The reason that they are not seen more frequently is that alcohol very often cuts short the lives of its victims by carrying them off with disease of the kidneys, liver, and other organs. The class of cases usually found intoxicated in the streets are the ones that die from delirium tremens, acute nephritis, etc. But such cases as we have seen to-day are saturated with small doses of alcohol. A man of this kind is never, or only very occasionally, known by his friends to be drunk. He will deny that he drinks excessively, and very likely tell you that he is quite temperate. At least half the number of such persons deny that they drink at all; so that I think it well to put you on your guard, lest you should be misled in some such case, and attribute the symptoms erroneously to some special disease of the nervous system.

How are you to come to a correct conclusion? By noting very carefully the presence of such features as I have already directed your attention to, and others which will presently be mentioned. Such a patient will tell you that he has had a very poor appetite, perhaps for quite a long time, and that he can never eat a full meal. He scarcely takes five or six mouthfuls of food before he feels completely satiated, and if he eats any more it is merely from a sense of duty. This distaste for food constitutes so general a rule that the symptoms of delirium tremens

always depend to a great extent upon previous starvation. I have scarcely ever seen a case of this affection where the patient had not been practically without food for six or eight days, and never one in which this had not been the case for at least four days. I have met with one well-authenticated case in which the man took no food for fourteen days; and it is indeed a wonder how such patients continue to live at all. Every individual who takes much alcohol has great difficulty in eating sufficient food for the requirements of the system; and hence it is that the atrophy which is so invariably found in chronic alcoholism is due in great part really to starvation.

In the next place, such a patient is exceedingly liable to be troubled with flatulence. He is very apt to have a marked distaste for meat, and if he eats it at all it must be very highly seasoned, in order to get the stomach to take it.

Third. An invariable symptom (I have never known it to be absent in a single instance) is poor sleep. It is poor in two respects. In the first place, the patient cannot get to sleep for a long time after retiring; and, secondly, he dreams a great deal when he does get to sleep. No drunkard ever has pleasant dreams. Hence such sleep as is obtained is not refreshing. If an individual who consults you states that he has had a poor appetite for years, and cannot sleep at night, your suspicions ought at once to be aroused to the probability at least of alcoholism being present.

Fourth. Another pretty constant symptom is constipation. Even if the patient has a movement of the bowels every day, it will usually be found, on investigation, that the evacuations are quite scanty.

Now let us pass to another group of symptoms. The first of these is a sense of falling, which has already been shown to be characteristic of alcoholism. This, indeed, often precedes alcoholic epilepsy, in which the mind gives way more quickly perhaps than in any other form of epilepsy. Many patients have insanity in connection with the epilepsy; but, whether this is the case or not, they always experience this fear of falling first. The sensation of dizziness which gives rise to this feeling is usually noticed for the first time just after the individual has stooped down to tie his shoe, or bent over to pick up something from the floor.

Secondly, we have cough; and this cough is peculiar, in that it is mainly laryngeal. It is, consequently, decidedly whistling in sound, and is about as characteristic of the condition as the loud bark of hysterical cough. The cough may be very severe, causing the patient to grow red in the face; but it is followed by no trouble whatever afterwards. On this account it is easy to distinguish it from the cough of both phthisis and bronchitis, which is invariably succeeded by quickened respiration. This is due to the diminution of the quantity of residual air in consequence of the act of coughing. In chronic alcoholism, however, all the cough is due simply to an irritation of the epiglottis. If you look for an explanation of this in any case, you will be sure to find a diffused redness all over the fauces. In bronchitis the cough frequently wakes the patient out of sleep; but in alcoholism he does not cough until after he has waked up.

The third symptom is tremor. It affects all the muscles, and is usually associated with more or less atrophy. This also, unlike that seen in the disease progressive muscular atrophy, is uniform in all parts of the body. You will always find that you can stop alcoholic tremor, in the hand, for instance, by grasping it firmly; but if it were the tremor of paralysis agitans, your hand also would be caused to shake by it.

Chronic alcoholism, I may remark, is curable up to a certain point; but when the mind has begun to be affected, the prognosis is exceedingly bad, for insanity, once having shown itself, is almost uniformly fatal. There is usually chronic meningitis in such cases, which sometimes terminates in acute mania, and sometimes in idiocy. When meningitis comes on suddenly, however, in consequence of some debauch, the prognosis is decidedly more favorable. If epilepsy sets in, the patient is in a very bad way, for this form of epilepsy is worse than any other.

I have brought these two cases before you, and dwelt at length upon their characteristics, mainly for two reasons. The first is in order that you may be able to recognize similar ones when they occur to you in practice, notwithstanding that the fact of their drinking may be denied. These patients are as sensitive about saying that they are at all intemperate as others about acknowledging that they have had

syphilis; and not infrequently they deceive themselves; for they seem to think that if they do not get intoxicated the use of alcohol is not injurious to them. The second reason is to remind you of the curability of a great many of the cases of alcoholism.

The first essential in the treatment is to get the patient to stop the use of alcohol at once and forever; and unless you can do this, there is no use in going on with the case. For the tremor, the oxide of zinc acts almost like a specific. It is also decidedly soporific in its effect, and has moreover the advantage of curing the gastritis which is usually present in these cases, and thus greatly improving the digestion. Finally, it is requisite that you should get the patient to eat; and at first milk is often the best form of diet. Food is the only thing that can stop the craving for alcohol; and so firm is my confidence in it as an antidote for this, that I do not hesitate to say that if an individual will never take alcohol except when he is eating, I have not the slightest fear of his ever becoming a confirmed drinker. It is the drinking between meals, and especially early in the morning, that does all the mischief.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF NAPELLINA AND ACONITIA.

BY J. MONRO MURRAY, Asst.-Surg. U.S.N.

(Continued from page 364.)

PART II.

WITHOUT discussing the work of previous experimenters, I propose to give here only results experimentally arrived at by myself. In a series of experiments upon the general phenomena produced by aconitia, it was found that its action is analogous to that of napellina, except that the former arrests the movements of the heart, while the latter does not.

Action on the Motor Nerves.—In a number of experiments I found as a rule that the nerves were completely paralyzed, but in a few cases the nerves still retained a slight portion of irritability. Boehm observed the same phenomenon, and Ott has seen like results from lycoctonia. I also have witnessed similar results from napellina.

Action on Sensory Nerves.—In studying the action of this drug on these nerves I used the methods of Bernard and Brown-Séquard.

Experiment V.—Frog; weight 26 grammes. 11.12 A.M. Iliac artery and vein ligated; .005 gramme of aconitia injected subcutaneously.

11.13 A.M. Pupils dilated; respiration slowed and forced.

11.20. Fibrillary muscular contractions.

11.40. Animal motionless; pupils dilated.

11.55. Animal dead; heart arrested; irritation of central end of sciatic produces no reflex movement; spine-thrust causes no contraction.

Exp. VI.—Frog; weight 31 grammes; iliac artery and vein ligated.

4.53 P.M. .01 gramme of aconitia subcutaneously injected.

5.23 P.M. Animal dead; irritation of either sciatic at its central end causes no reflex movement.

Exp. VII.—Frog; abdominal aorta and all its surrounding tissues except the nerves ligated. 1.25 P.M. .01 gramme of aconitia subcutaneously injected. 1.37 P.M. Motor paralysis in the anterior extremity; none in the posterior. 1.40 P.M. No movements now when the anterior extremities are touched with acetic acid, but when the trunks of nerves of anterior extremity are irritated there ensues movement in the posterior extremity; finally, irritation of the nerve-trunks fails to elicit movement in posterior extremity.

As is seen, the sensory-nerve ends first fail to transmit impressions to the spinal sensory ganglia and then to the nerve-trunks. Hence it is inferred that aconitia acts first on the sensory-nerve ends, and then this action extends up to the spinal sensory ganglia. Various conflicting theories have been advanced by the different observers in regard to the action of aconitia upon the nervous system. From my experiments I conclude,—1, that it paralyzes first the peripheral ends of sensory nerves, and then the nerve-trunk, and finally the spinal sensory ganglia; 2, that it as a rule paralyzes the motor nerves depending on the variety of the batrachian; that it causes death by arrest of the respiratory apparatus; that it always arrests the heart in diastole.

Circulatory Apparatus.—My mode of investigating the phenomena produced by aconitia was the same as already described when treating of napellina. I have made twenty-one experiments.

In several manometrical experiments made upon cats it was found that aconitia

causes a fall of pulse and pressure, preceded in most cases by a temporary rise of both for a period of fifteen to thirty seconds.

A series of experiments were made after section of the vagi and after paralysis of the peripheral vagi by the exhibition of atropia or of nicotine.

The fall of pulse and of pressure noted in the uninjured animal was not prevented either by the section of the vagi or their paralysis by atropine or nicotine: hence the cause of it does not reside in the cardio-inhibitory apparatus.

Exp. VIII.—Large dog; tracheotomy; artificial respiration; curare.

TIME.	PULSE.	PRESSURE.
	27	210
	Aconitia, .01 gramme.	
11.53.0	35	230
11.55.45	33	221
12.12.30	34	215
	Aconitia, .01 gramme.	
12.17.15	33	165
	Aconitia, .015 gramme.	
12.18.00	30	120
	Aconitia, .02 gramme.	
12.18.15	34	100
12.20.33	33	110
	Vagus irritated at o, Dubois-Reymond, for 4 seconds.	
12.37.0	Animal dead; heart arrested.	

Exp. IX.—Rabbit; vagi prepared; Midledorff's needle pushed into the heart. 1.42 P.M. Dubois' coil at 9 stops the heart. 1.45 P.M. Aconitia, .005 gramme, by the jugular. 1.49 P.M. Coil at 9 does not arrest the heart. 1.51 P.M. Coil at 5 does not slow the heart. 1.57 P.M. Coil at o; no action in slowing the heart, showing that the vagus is paralyzed.

These experiments clearly demonstrate that aconitia paralyzes the pneumogastric. Dr. Achscharumow found after section of the vagi that there was a marked elevation of pulse and pressure. This phenomenon I have failed to observe in any of my experiments. I have also verified on the frog the complete paralysis of the vagi by aconitia.

Action on the Vaso-Motor Apparatus.

Exp. X.—Large cat; curare; vagi divided; artificial respiration; Ludwig's electrodes screwed into the atlas and occiput; sciatic prepared.

TIME P.M.	PULSE.	PRESSURE.
	47	80
	Aconitia, .0025 gramme.	
1.42.0	49	83
1.42.15	50	75
	Vaso-motor centre irritated at 10 millimetres, Dubois' coil.	

TIME P.M.	PULSE.	PRESSURE.
1.42.30	45	112
1.44.00	40	70
	Aconitia, .0025 gramme.	
1.47.30	45	71
	Aconitia, .005 gramme.	
1.47.45	43	69
1.48.30	40	59
	Sciatic indirectly irritated at o.	
1.49.15	39	58
1.49.45	31	40
	Centre directly irritated at o, Dubois.	
1.50.0	31	35
1.51.0	Animal dead.	

Here the main vaso-motor centre has been paralyzed both to direct and indirect irritation.

Action on the Cardio-Motor Apparatus.

Exp. XI.—Cat; curare; cardiac nerves in the neck cut; cord cut between the atlas and occiput verified by post-mortem; bleeding staunch by bovista.

TIME A.M.	PULSE.	PRESSURE.
	42	32
	Aconitia, .01 gramme.	
11.15.0	40	32
11.16.15	35	30
11.18.15	35	21
11.19.45	30	20
11.20.45	36	20
11.21.45	Animal dead.	

I have made a few experiments on the circulation with aconitia, and then antagonized it with digitalis. They were confirmatory of those given under napellina. An excised frog's heart when arrested by aconitia is easily set in motion by infusion of digitalis. Digitalis, therefore, has an antagonistic action in poisoning by aconitia. My conclusions as to the action of aconitia on the circulatory system are as follows:

1. The alkaloid produces a decided fall in pulse and pressure, nearly always preceded by a rise of both for about thirty minutes.
2. This fall is not due to either central or peripheral stimulation of the cardio-inhibitory apparatus.
3. Aconitia paralyzes the pneumogastrics.
4. The same sequence of events follows after separation of the heart from its nervous connections.
5. Aconitia has a peculiar action on the heart, which is expressed by a delirium of its movements. The vaso-motor centre is finally paralyzed to either direct or indirect irritation. Digitalis is an antidote in aconite-poisoning.

These conclusions are founded on twenty-one experiments on warm-blooded animals.

In several experiments it was found that aconite increases and then decreases the respiratory movements without regard to the previous section of the vagi. It is evident that the drug acts on the respiratory centres of the medulla.

Action on the Muscular System.—I have registered numerous muscle-curves by the methods already described under the head of napellina, but have never, like Boehm and Wartmann, seen any action like veratria, although Weyland has given a figure much resembling that produced by veratria as characteristic of aconitia.

To show that long contact of aconitia will destroy the irritability of a muscle, I submit the following:

When topically applied I found it slowly to destroy muscular contractility.

Temperature.—I have observed in all my experiments on the subject that there is a fall of about 3° centigrade in the rectal temperature.

Glandular System.—I have noted in all my experiments on warm-blooded animals that there was a marked increase in the salivary secretion. The gall-bladder was very much distended, spleen and kidneys congested, bladder distended with urine which contained neither albumen nor sugar. The intestinal peristalsis was usually increased, and the quantity of fæces was augmented.

In conclusion, I offer the following comparison between the physiological actions of lycoctonia, napellina, and aconitia:

Aconitia.

1. Aconitia is a powerful toxic agent.
2. It kills mainly through the respiratory apparatus.
3. It paralyzes the motor nerves.
4. It paralyzes first the sensory-nerve ends, then the nerve-trunks and spinal sensory ganglia, and does not affect the striated muscles.
5. It reduces the arterial tension and pulse, with a decided primary rise of the former.
6. The pulse- and pressure-changes are due to an action on the intra-cardiac nervous apparatus.
7. The vagi are paralyzed by small doses.
8. The delirium cordis is due to a change in the nervous mechanism of the heart.
9. It paralyzes the heart of batrachians.

Napellina.

1. Is a weaker toxicant than aconitia.
2. Same as aconitia.

3. Same as aconitia.
4. Same as aconitia.
5. Same as aconitia.
6. Same as aconitia.
7. The vagi are paralyzed by medium doses.
8. Same as aconitia.
9. It does not poison the heart of batrachians.

Lycoctonia.

1. Lycoctonia is a weaker toxicant than either aconitia or napellina.
2. The same as aconitia.
3. The same as aconitia.
4. It does not affect sensory nerves, spinal cord, or striated muscles.
5. It reduces arterial tension and pulse, without any primary rise.
- 6.
7. The vagi are only paralyzed by large doses.
8. Same as aconitia.
9. It does not paralyze the heart of batrachians.

In conclusion, I beg to express my warmest thanks to my friend and tutor, Dr. Isaac Ott, formerly Demonstrator of Physiology in this laboratory, for his personal supervision of many of my experiments, as well as for his kindness in affording me access to his valuable library, from which I obtained many rare works of reference.

PHYSIOLOGICAL LABORATORY OF THE UNIVERSITY OF PENNSYLVANIA, March, 1876.

SMALLPOX IN THE PREGNANT WOMAN AND IN THE FETUS.

BY W. M. WELCH, M.D.,

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THE genital functions of the female are disturbed with striking frequency by the variola process. The menses very commonly appear out of their regular course, and, in the pregnant woman, abortion or premature birth is an accident of common occurrence, and one that greatly adds to the danger of the disease. Although the premature appearance of the menses, and even the occurrence of abortion, are not uncommon events in many other infectious diseases, yet in smallpox there is, I think, a direct action upon the functions of the uterus; for either of these events happens too frequently in this disease to be regarded as purely accidental. It is true that pregnant women not unfrequently pass through an attack of smallpox and escape abortion; yet in non-pregnant women menstruation occurs almost invariably, whether at or before the regular period. When it occurs be-

fore the regular period it is probably not due to ovulation, but is the result of a hyperæmic condition of the womb brought about by the variola process; though the precise way in which this condition is brought about is, perhaps, unknown.

So also in the pregnant woman the disease very frequently exerts the same direct action upon the womb, giving rise to a bloody discharge which always precedes abortion, and which doubtless is in most instances the cause of the accident; for we know that an attack of uterine hemorrhage, however slight, during the early stage of pregnancy, is often a sure precursor of the final destruction of the embryo. A distinguished writer* has said, "As a general rule, if a woman not advanced beyond the fourth month loses a teaspoonful of blood, it is probable that she will miscarry." Not unfrequently in smallpox the loss of blood from this source is very profuse: in such cases abortion or premature birth is looked for as a matter of course.

While I regard the action of the variola process upon the womb as the chief cause of abortion in this disease, yet it must be admitted that the miscarriage is sometimes attributable to another cause, the death of the foetus from itself undergoing an attack of smallpox. This subject will be more fully considered in a later part of the paper.

The symptoms and course of smallpox are often greatly influenced by the occurrence of abortion. If it occurs during the febrile or initial stage, the disease is apt to assume the form known as *purpura variolosa*, which is regarded as the worst form the disease could take. In such cases, besides the ordinary rigors and headache, which usually usher in the initial stage, there are intense pain in the back, and great prostration. Quite early, there appears a diffuse scarlatiniform redness on the trunk and extremities, often more intense in some localities than in others, but leaving the face comparatively free. This redness does not continue longer than a day or two, and, as it fades away, petechiæ and larger hemorrhagic spots become visible. The petechiæ not unfrequently are so densely crowded together in certain localities as to produce the appearance of a diffuse redness; differing, however, from the scarlatiniform redness by

being of a deeper color and by not disappearing under pressure.

The petechial or hemorrhagic eruption may appear on any part of the body, but the favorite seat seems to be the lower abdominal region, the groins, and the inner surfaces of the upper portions of the thighs. I have seen parturient women, and women in whom abortion has occurred, die, showing no other sign of eruption than that just described. In such cases, without carefully examining all parts of the body, and particularly the groins, it is quite possible to overlook the real cause of death. When the petechiæ or hemorrhagic spots do not appear during the illness of the patient, it should be remembered that they very generally become visible upon the dead body.

During the eruptive stage of this form of the disease, the face presents a red and puffy appearance, large dark rings form around the eyes, resulting from effusion of blood into the cellular tissue, the conjunctivæ are congested, and sometimes infiltrated with blood, and, altogether, the countenance is so changed that the patient is made to present a truly hideous appearance, and is often wholly unrecognizable by her most intimate friends.

Along with these symptoms, there often are nausea and vomiting, a troublesome cough with expectoration of bloody sputa, frequently bloody stools and blood in the urine, and there is always a free and uncontrollable discharge of blood from the uterus. Towards the end, various portions of the body present a blackish or leaden-gray hue, and a horribly fetid odor is given off, which increases the loathsomeness of the disease. With all these frightful symptoms, strange to say, the intellect usually remains unimpaired until shortly before dissolution.

In very many instances the smallpox process is not so entirely cut short in the initial stage, but as the case advances the characteristic pustular eruption appears and partially develops. There often co-exist in the same case the two forms of eruption,—the petechial and the pustular. In such cases, the pustules, however, instead of filling with pure pus, contain a mixture of pus and blood. Whether the disease assumes the purely petechial or the hemorrhagic pustular form, the final result is always the same: death invariably follows, though it may be a little longer delayed in the latter form.

* Chas. D. Meigs, M. D. *Females and their Diseases*, p. 529.

The disease may sometimes assume still another form. The true eruption may appear and proceed to maturation unassociated with petechiæ, but, in consequence of the profuse flow of blood from the womb, areolæ do not form at the base of the pustules, and the pustules present a shrunk or shrivelled appearance, and become of a milky-white color; a general adynamic condition ensues, and death follows as certainly as in the petechial or hemorrhagic form of the disease.

Not every case of smallpox in which abortion or premature birth occurs in the earlier stages of the disease takes on these terribly malignant forms. In the markedly modified form the smallpox process is, of course, not so seriously affected by the occurrence of this accident. Even in cases of true variola, when the loss of blood is not very great (which is very rare), the smallpox process may pursue its regular course, and progress to a favorable termination. I have met with two and only two recoveries out of twelve cases of variola vera in which the complication occurred in the earlier stages of the disease.

For facts in support of what has been said relative to smallpox exciting abortion when the pregnant woman is attacked, and to the increased mortality from the disease when this complication arises, the reader is referred to the table appended to this paper.

On examination of the table it may be seen that out of forty-six cases of smallpox (variola and varioloid) occurring in pregnant women, twenty-seven, or 58.69 per cent., suffered from abortion or premature birth. Of the remaining nineteen cases, eleven recovered without abortion occurring, and were delivered at full term, four died without suffering abortion, and four were not heard from after leaving the hospital. Of the twenty-seven cases (including both variola and varioloid) in which abortion or premature birth occurred, ten, or 37 per cent., died.

Abortion occurs in variola more frequently than in varioloid, though the difference is not so great as we would expect to find it. The table shows that out of twenty cases of variola, fourteen, or 70 per cent., miscarried; and out of twenty-six cases of varioloid, thirteen, or 50 per cent., miscarried, and four were not heard from after leaving the hospital. It is probable that abortion occurred in some of these latter cases also, for it was found that the

accident not unfrequently happened long after patients had fully recovered, and returned to their homes.

When miscarriage occurs in variola it proves, of course, a much more serious complication than when it occurs in varioloid. By reference to the table we find that out of fourteen cases of variola thus complicated, ten, or 71.44 per cent., died; while among thirteen cases of varioloid in which the complication occurred there were no deaths. It may be proper to add, however, that I designate as varioloid only those cases in which there is no secondary fever, and in which the eruption reaches its height not later than the seventh day, counting from the day on which it first appears.

The period at which miscarriage most frequently takes place is during the second or eruptive stage of the disease. It not only occurs during the course of the disease, but frequently during convalescence, and, in many instances also, even several weeks after complete restoration of health. When it occurs at the latter time, the foetus is usually found to be in a putrid state, indicating that its death took place a long time before, probably during the mother's illness, or, at the latest, during her convalescence.

Miscarriage proves a much more serious complication, as I have already indicated, when it occurs during the earlier stages of the disease; that is, during the first stage or the stage of initial fever, and the second or eruptive stage. Turning again to the table, we find that among the twenty-seven cases in which miscarriage or premature labor occurred, one miscarried during the first stage of the disease, and death ensued; eighteen miscarried during the second stage, of which number nine died; three miscarried during the third stage, of which there were no deaths; and five miscarried after perfect health had been restored, and they all recovered. The accident happens, doubtless, much more frequently during the first stage of the disease, particularly under epidemic influence, than the table would lead us to believe. In such cases death usually follows so speedily that the true nature of the disease is often overlooked, or, if recognized, the critical condition of the patient forbids removal to the hospital; hence the table shows a relatively small number of miscarriages occurring at this stage of the disease.

Smallpox in the fœtus.—The theory concerning the nature of smallpox is, briefly, that a specific poison is absorbed and infects the blood. Therefore, when a pregnant woman suffers from smallpox we would naturally expect the fœtus to be likewise attacked, and to pass through all the phases of the disease coincidentally with the mother. Strange to say, however, this is but seldom the case. Yet it cannot be doubted that the fœtus is sometimes the subject of the disease, since a number of well-authenticated cases may be cited to prove the fact. In the majority of reported cases the attack of the fœtus does not begin simultaneously with that of the mother, but at a somewhat later period. This would seem to indicate one of two things,—either that the incubatory period is much longer in the fœtus, or that infection does not take place until the disease has fully developed in the mother. The latter is believed by some authors to be the case, and they therefore argue that infection takes place by simple contact rather than by the blood of the mother; for, it is said, if the blood of the mother were the infecting agent, the disease in the fœtus should be of constant occurrence. For the present I will say that, in my opinion, the mother's blood is the principal if not the only infecting agent, and hereafter will present some facts in support of this opinion.

In order to show the possibility of fœtal infection, and the circumstances under which it has taken place, I will briefly refer to a few well-authenticated cases.

Curschmann (*Cyclopædia of the Practice of Medicine*, by Ziemssen, vol. ii. p. 327) relates a case in which the mother in the fifth month of her pregnancy was sick in hospital with varioloid from November 28 to December 12, 1870. She had fully recovered on December 10. The fœtal movements remained strong up to the 28th, when they suddenly ceased. On the 31st she gave birth to a child, evidently dead for several days, which presented a well-formed smallpox eruption in the stage of suppuration.

The same author (loc. cit., p. 328), also, relates a case of infection of the fœtus which he thinks resulted from an attack of "variola sine exanthemate" in the mother. He says, "During a severe epidemic of smallpox, a midwife, aged 40, in the eighth month of pregnancy, fell sick with rigors, followed by violent fever, headache, pain in the back, etc.,—apparently the initial

stage of smallpox. On the fourth day, however, she was free from fever, and, in spite of the most careful examination, exhibited no trace of the expected eruption. Ten days after the commencement of the disease, feeling at this time perfectly well, she gave birth to a child covered with a smallpox eruption, evidently just appearing, which developed still further, and in three days terminated in death during the stage of suppuration."

Dr. Lebert (*Bull. de Thérap.*, April 30, 1849, and Gregory on "Eruptive Fevers") exhibited to the Biological Society of Paris an aborted fœtus about four months old, whose body was covered with smallpox pustules, the mother having had a slight attack of varioloid and aborted during convalescence.

Dr. King (*N. Y. Jour. Med. and Surg.*, April, 1840) mentions a case of varioloid in a pregnant woman, and says that seventeen days after the first appearance of eruption, when desiccation was fully completed, she gave birth to a living child at seven months, covered with variola pustules.

Dr. William T. Taylor, of this city, reports an instance (*Amer. Jour. Med. Sci.*, New Series, vol. xxvi. p. 127) in which a pregnant woman underwent a very slight attack of varioloid, and twelve days after the appearance of eruption, which did not proceed beyond the papular form, expelled a five months' fœtus on whose body were smallpox pustules.

I have myself seen two cases of infection during intra-uterine life. One is recorded in the annexed table (Case 13), and the other occurred in an infant born at the eighth month, on whose body at birth the eruption was just beginning to appear. The child lived eight days, and died of fully-developed smallpox. The mother had smallpox, and died shortly after the birth of the child.

Dr. Luther V. Bell (*Amer. Jour. Med. Sci.*, May, 1836) gives an instance of a healthy child born at full term, exhibiting on its abdomen and thighs decided smallpox pitting, and who was insusceptible to vaccination. The mother had passed through an attack of confluent smallpox at the seventh month of her pregnancy.

Van Swieten (quoted by Dr. D. Hosack, "Medical Essays," and Gregory on "Eruptive Fevers") mentions a case similar to the one above.

We find from the reported cases, and from the annexed table, that infection of the foetus does not depend upon the severity of the disease in the mother. Pregnant women suffering from the severest form of confluent variola do not communicate the disease to the foetus more frequently than those who have the disease in the mildest possible form. Indeed, infection of the foetus has even taken place through exposure of the mother, although she at the time was not personally susceptible to the contagion. Several curious cases of this description have been reported, and my paper would not be complete without referring to a few of them.

Jenner (*Medico-Chirurg. Trans.*, vol. i. p. 274) records two cases which came under his own observation, and also cites another reported by Mead. One of Jenner's cases is detailed by him as follows:

"A few days previous to her confinement (Mrs. W.) she met a very disgusting object, whose face was covered with smallpox. The smell and appearance of the poor creature affected her much at the time, and though she mentioned the circumstance on her return home, she had no idea that her infant could suffer from it, having had the smallpox herself when a child. During a few days after its birth the little one seemed quite well, but on the fifth day it became indisposed, and on the seventh the smallpox appeared. The pustules, which were few in number, matured completely. Dr. Croft, who attended her, being curious to know the effect of inoculation from one of the pustules, put some of the matter taken from one of them into the hands of a gentleman eminently versed in that practice, who produced the disease correctly. Mrs. W. was not sensible of any indisposition herself from this exposure, nor had she any appearance of the smallpox."

In the other case reported by Jenner, the mother, at the beginning of the last month of gestation, was exposed to variola contagion without being affected herself; but about one month after exposure she gave birth to a child whose body was covered with smallpox eruption in its early stage. But, to leave no doubt concerning the nature of the disease, smallpox was produced in another person by inoculation with some of the matter from the pustules. The child was seized with convulsions and died.

In the case observed by Mead, the mother, when "near her reckoning," attended upon her husband in an attack of smallpox. She had formerly had the disease, and was not now in the least affected by it. She went her full time, and was delivered of a dead child whose body was covered all over with variola pustules.

Dr. J. K. Mitchell (*Amer. Jour. Med. Sci.*, vol. viii. p. 555) reports a case in which the mother was exposed to the contagion three or four weeks before her confinement, without contracting the disease. The child was born healthy, but exhibited symptoms of smallpox on the third day after its birth, and nine days after birth the pustules were fully developed.

A case was communicated to the French Academy of Medicine in July, 1832, by M. Deneux (*ibid.*, vol. xi. p. 499). In this case the mother was not conscious of having been exposed to the contagion, and had had no symptoms of the disease. The child was born exhibiting confluent variola pustules in the eleventh or twelfth day of development.

Guoli reports a case (*ibid.*, vol. iv., New Series, October, 1842, p. 485) in which the mother was not conscious of any exposure, though about a week before delivery she was generally ill, but exhibited no decided symptoms of smallpox. The child was born at eight months, covered with variola pustules, which were at their height on the second day after birth.

Joslin reports a case (*ibid.*, vol. v., New Series, January, 1843, p. 249) in which the mother, just thirty days previous to her confinement, was exposed but once to a single case of smallpox at the very commencement of the eruption. She did not take the disease herself, but the child had on its body at birth a large number of variola pustules in the eighth or tenth day of development.

M. Gerardine reports a case (*loc. cit.*, July, 1843) in which the mother was exposed to the contagion eight or ten days before her confinement, and remained entirely free from the disease. The child exhibited at birth a copious eruption of smallpox in the stage of suppuration.

The conclusions to be derived from the cases to which reference has been made are as follows. 1. That infection of the

fœtus may take place when the mother suffers from smallpox. 2. That the infection may be communicated to the fœtus through exposure of the mother, though she herself remains entirely free from the disease. 3. That the infection may be communicated at any time between the fourth month, perhaps earlier, of gestation and the full term. 4. That when infection takes place in the earlier stages of intra-uterine life the fœtus usually perishes, and is expelled in three or four days, or it may be retained for three or four weeks, perhaps longer, after life has become extinct. 5. That when infection takes place during the latter period of intra-uterine life, the child at birth may be covered with the eruption, which may be in different stages of development in different cases, or the eruption may not appear until a few days after birth. 6. That it is possible for a child in utero to undergo smallpox and recover, and to be born alive at full term exhibiting scars from the disease.

One other fact, already referred to, is exemplified in the reported cases, and that is, when a pregnant woman having smallpox communicates the disease to the child in utero, the latter, as a rule, is not attacked until the disease has made considerable progress in the mother. Can it be, as has been supposed, that infection takes place by simple contact, rather than by the blood of the mother? If so, I inquire, what is the source of infection in those cases in which the disease is communicated to the child through exposure of the mother, while she herself remains entirely free from it? Surely in such cases, and I believe in all cases, the blood of the mother is the only infecting medium: that is, the contagium is absorbed into the blood, and thereby conveyed to the fœtus.

A priori, we would suppose that in consequence of the close relationship between the blood of the mother and that of the fœtus, the disease in the fœtus would be of decidedly more frequent, if not of constant, occurrence; but why the fœtus in the great majority of instances escapes the disease, is a question which, I feel constrained to say, has as yet received no satisfactory answer.

It was, however, formerly believed by some that smallpox in the pregnant woman is invariably communicated to the fœtus,

and that the fœtus generally perishes, and hence the frequency of abortion. Mead, doubtless, entertained this opinion, for he has said if a pregnant woman undergoes smallpox without aborting, the infant would remain through life insusceptible, having, in fact, passed through the disease in utero.

I have already endeavored to show that abortion generally occurs in consequence of some direct action of the variola process upon the womb, rather than from infection of the fœtus; and now I propose to offer some evidence to show that when a pregnant woman undergoes smallpox without miscarriage occurring, the susceptibility to the disease is not destroyed in the infant, except perhaps in some rare cases.

It will not be denied, I think, that susceptibility to the vaccine disease proves susceptibility to smallpox; and also that insusceptibility to one proves insusceptibility to the other. That there is now and then an infant born under the circumstances named above who will not respond to vaccina seems probable from a few reported instances. For example, Henry Robinson reports a case (*Brit. Med. Jour.*, February 10, 1877) of confluent smallpox at the seventh month of pregnancy in which abortion, although threatened, did not occur. The infant was born at full term, strong and healthy in every way, and quite free from any indication of the mother's illness. When two months old, the child was vaccinated, in the first place with points, without effect; then capillary tubes were tried, without result; and then arm-to-arm vaccination was done, and still there was no result. Robinson therefore concludes that the insusceptibility of this child to vaccination is owing to its having undergone smallpox in utero. While I do not deny that such may have been the case, yet I would call attention to the fact that the infant was only two months old when vaccination was attempted, and would say that it is sometimes very difficult, if not impossible, to successfully vaccinate very young infants. Perhaps if this child had been vaccinated when older, say at the age of four or five months, no difficulty would have been experienced in obtaining a successful result.

But in the vast majority of instances smallpox in the pregnant woman does not destroy the susceptibility to vaccina in the infant. In order to exemplify this statement, I shall briefly refer, first, to seven

cases reported by G. Rigden (*British Med. Jour.*, February 24, 1877), and then to six cases which have come under my own observation.

In the first case reported by Rigden, the mother had varioloid in the eighth month of her pregnancy. The infant was born at full term, presenting no evidence of the disease, but continued healthy, and was successfully vaccinated at the age of six months.

In the second case, the mother had varioloid in the seventh month of her pregnancy. The infant was born at full term, strong and healthy, and did not appear to have suffered from its mother's disease. Vaccination was successfully performed at the age of three months.

In the third case, the mother was attacked with varioloid within a week of her confinement at full term, and the disease was fully developed at the time of delivery. The infant when born was vigorous, and entirely free from any evidence of smallpox. It remained free from the disease, and was successfully vaccinated when between three and four months old.

In the fourth case, varioloid occurred when the mother was about seven months advanced in pregnancy, and delivery took place at the usual time. The child when born was vigorous, apparently unaffected, and was successfully vaccinated at the age of three months.

In the fifth case, the mother had varioloid when eight months advanced in pregnancy, and had fully recovered when delivery took place at full term. The child at birth was unaffected by the disease; it continued to thrive, and was successfully vaccinated before the fourth month.

In the sixth case, the mother was attacked with varioloid when daily expecting her confinement. Delivery took place while the eruption was at its height. She made a good recovery, and was able to nurse her child almost from the day of its birth. The infant was vaccinated the day following its birth, but without success; but, probably from neglect, became afflicted about a week after its birth with infantile erysipelas, and continued unhealthy for nearly three months; it fully recovered, and was successfully vaccinated when between four and five months old.

The child in the last case furnishes an example of what has already been said, namely, that very young infants are not

always susceptible to vaccina. An additional fact is verified in this case, and also in the third case, which is, that new-born infants sometimes resist contagion to which they are readily susceptible when older.

In the seventh case, the mother contracted smallpox between the seventh and eighth month of her pregnancy. She recovered, and was delivered at full term of a healthy child, showing no evidence of having suffered from its mother's disease. Vaccination was successfully performed when three months old.

The six cases, similar to those above, in which I had the opportunity of testing the susceptibility of the infants to vaccina may be found recorded in the appended table: hence I shall refer to them here only very briefly.

Of the six cases, one had confluent variola, and five had varioloid. The earliest period of pregnancy at which the disease occurred in either of these cases was four months. Two of the number were delivered at or about full term, while suffering from smallpox, and their infants were at once successfully vaccinated, and wholly protected from the disease. The infants were all born healthy, and entirely free from any evidence of the disease; and they were *all* successfully vaccinated.

Besides these cases, seven similar ones are recorded in the table, but I regret to say that I did not have the opportunity of testing the susceptibility of these infants to vaccina. So far as I could learn, however, they showed no evidence whatever of having suffered from smallpox in utero.

The conclusions embodied in the foregoing observations may be summed up as follows:

First. Smallpox in the female disturbs with striking frequency the functions of the womb, giving rise in the non-pregnant woman to premature appearance of the menses, and, in the pregnant woman, frequently exciting abortion.

Second. Abortion is a very serious complication of smallpox. The earlier in the course of the disease it occurs, the more serious is the complication.

Third. The foetus does not generally undergo smallpox in utero, although occasionally such may be the case.

Fourth. When a pregnant woman undergoes smallpox without miscarriage occurring, the susceptibility to the disease in the infant is not destroyed.

Table showing a record of forty-six cases of smallpox occurring in pregnant women.

Number of cases.	Color, White or Black.	Age.	Disease.	Whether vaccinated ; and, if so, character of cicatrix.	Month of pregnancy when attacked.	Stage of the disease at which abortion occurred.	Result.	Number of days in hospital.	Remarks.
1	W.	23	Variola (confluent).	Poor cicatrix.	4	.....	Recovered	44	Delivered at term; child showed no evidence of having had smallpox, and was successfully vaccinated.
2	"	27	Variola.	Good cicatrix.	3	4th day of eruption.	Died, 5th day of eruption.	2	Fœtus showed no signs of smallpox.
3	"	35	Varioloid.	Fair cicatrix.	3	18th day of eruption.	Recovered	26	Fœtus showed no evidence of smallpox.
4	"	21	Variola.	Poor cicatrix.	2	3d week.	Recovered	18	Fœtus showed no evidence of smallpox.
5	"	32	Varioloid (mild).	10 poor cicatrices.	5	After leaving hospital.	Recovered	4	Eloped from hospital, and subsequently aborted. No history of fœtus.
6	"	24	Variola (confluent).	Fair cicatrix.	8	1st day of initial fever.	Died, 3d day of eruption.	2	Child lived for a short time, and died from debility; showed no signs of smallpox.
7	"	30	Variola.	Poor cicatrix.	5½	.....	Recovered	31	Delivered at term; child showed no evidence of smallpox.
8	"	26	Varioloid.	Fair cicatrix.	3	5 weeks after leaving hos.	Recovered	21	Aborted 5 weeks after leaving hospital; no history of fœtus.
9	"	22	Variola.	Not vaccinated.	7½	1st day of eruption.	Died, 6th day of eruption.	4	Prematurely delivered before admission into hospital. No history of child.
10	B.	35	Varioloid.	Poor cicatrix.	3	.....	Recovered	14	Delivered at term. No history of child.
11	W.	15	Variola.	Not vaccinated.	3	.....	Died, 9th day of eruption.	6	This patient was said to have been pregnant, but abortion did not take place.
12	"	23	Varioloid.	Good cicatrix.	2	10 days after leaving hos.	Recovered	14	No history of fœtus.
13	"	22	Varioloid.	Good cicatrix.	5½	26th day of eruption.	Recovered	41	The fœtus presented a few red spots, evidently the result (scars) of slight vesicular eruption.
14	"	18	Varioloid (mild).	2 good cicatrices.	8½	9th day of eruption.	Recovered	27	The child was vaccinated immediately after birth; a small vaccine vesicle developed; was an inmate of hospital for 3 weeks; did not contract smallpox.
15	B.	21	Varioloid.	Poor cicatrix.	3	.....	Recovered	27	Patient not heard from after leaving hospital.
16	W.	29	Varioloid.	Poor cicatrix.	5	.....	Died, 5th day of eruption.	3	Died without aborting. Post-mortem: Fœtus examined; no signs of smallpox.
17	"	30	Varioloid (mild).	Good cicatrix.	9	Delivered at early stage of eruption.	Recovered	26	Child vaccinated immediately after birth; 2 perfect vaccine vesicles developed; an inmate of hospital for 4 weeks; did not take smallpox.
18	"	30	Variola.	Poor cicatrix.	5½	2d day of eruption.	Died, 3d day of eruption.	1	Fœtus showed no evidence of smallpox.
19	"	27	Varioloid.	Fair cicatrix.	7	.....	Recovered	14	Delivered at term. No history of child.
20	B.	27	Variola.	Poor cicatrix.	3	1st day of eruption.	Died, 7th day of eruption.	5	Fœtus showed no evidence of smallpox.
21	"	26	Variola (confluent).	Not vaccinated.	7 or 8	3d day of eruption.	Died, 11th day of eruption.	3	Child lived one or two days, and died from debility. No evidence of smallpox.
22	W.	32	Varioloid.	4 good cicatrices.	8	.....	Recovered	15	Abortion threatened, but symptoms subdued by morph. sulph. Delivered at term. No history of child.
23	"	20	Variola.	Not vaccinated.	6	.....	Died, 7th day of eruption.	4	Died while in the act of abortion.
24	"	17	Variola (confluent).	Not vaccinated.	4	6 weeks after leaving hos.	Recovered	30	Aborted 6 weeks after leaving hospital; no history of fœtus.
25	B.	24	Variola.	Fair cicatrix.	3	.....	Died, 27th day of eruption.	22	Died of pleurisy, without aborting.
26	W.	19	Varioloid (mild).	5 good cicatrices.	6	One month after leaving hospital.	Recovered	7	Aborted one month after leaving hospital; no history of fœtus.
27	"	26	Variola.	Fair cicatrix.	5	3d day of eruption.	Died, 6th day of eruption.	3	Fœtus showed no evidence of smallpox.
28	"	22	Varioloid (mild).	Poor cicatrix.	3	2d day of eruption.	Recovered	7	Fœtus showed no signs of smallpox.
29	"	30	Variola.	3 poor cicatrices.	5½	4th day of eruption.	Recovered	29	Fœtus showed no evidence of smallpox.
30	"	20	Varioloid.	Fair cicatrix.	8	1st day of eruption.	Recovered	40	Infant died of debility. No evidence of smallpox.

Table (continued).

Number of cases.	Color, White or Black.	Age.	Disease.	Whether vaccinated; and, if so, character of cicatrix.	Month of pregnancy when attacked.	Stage of the disease at which abortion occurred.	Result.	Number of days in hospital.	Remarks.
31	W.	25	Variola.	Good cicatrix.	5½	.....	Recovered	29	Delivered at term. No history of child.
32	"	25	Variola (confluent).	6 poor cicatrices.	4	5th day of eruption.	Recovered	32	Fœtus showed no signs of smallpox.
33	"	45	Varioloid (mild).	Fair cicatrix.	6	.....	Recovered	10	Eruption only papular. Not heard from after leaving hospital.
34	"	19	Varioloid.	Poor cicatrix.	6	.....	Recovered	23	Delivered at term. No history of child.
35	"	26	Variola.	Not vaccinated.	7½	1st day of eruption.	Died, 4th day of eruption.	2	Fœtus showed no signs of smallpox.
36	"	18	Varioloid.	3 fair cicatrices.	3½	.....	Recovered	15	Patient not heard from after leaving hospital.
37	B.	26	Variola.	Unknown.	8	Early stage of eruption.	Died.	.....	Died on way to hospital. Infant died from debility; showed no signs of smallpox.
38	W.	41	Varioloid.	2 good cicatrices.	8	3d day of eruption.	Recovered	23	Infant died from debility. No signs of smallpox.
39	"	28	Varioloid.	Fair cicatrix.	4½	.....	Recovered	*	Delivered at term; child successfully vaccinated.
40	"	30	Varioloid.	2 fair cicatrices.	6	.....	Recovered	*	Delivered at term; child successfully vaccinated.
41	"	25	Varioloid.	Good cicatrix.	3	1st day of eruption.	Recovered	14	Abortion occurred before admission to hospital; no history of fœtus.
42	B.	20	Variola.	Poor cicatrix.	6½	5th day of eruption.	Died, 8th day of eruption.	4	Infant lived about 24 hours. No signs of smallpox.
43	W.	22	Varioloid.	Good cicatrix.	5	.....	Recovered	16	Delivered at term. Infant showed no signs of having had smallpox; died when 2 months old, without being vaccinated.
44	"	28	Varioloid.	4 good cicatrices.	6	.....	Recovered	16	Delivered at term; child successfully vaccinated.
45	"	21	Varioloid.	8 good cicatrices.	5	During maturation.	Recovered	23	Fœtus showed no signs of smallpox.
46	"	25	Varioloid (mild).	3 fair cicatrices.	6	.....	Recovered	26	Was conscious of the motions of the child when discharged; not heard from since.

* Private patient.

TRANSLATIONS.

IODIDE OF POTASSIUM AND IODIDE OF ETHYL IN THE TREATMENT OF ASTHMA.—

Prof. Germain Sée, in a communication to *La France Médicale*, February 2, 1878, states that he has made some researches into the application of iodide of potassium to the treatment of asthma, not only in the attacks, but with a view to curing the disease itself. He gives a brief statement of the number of cases observed, together with a complete analysis of the various points connected with the administration of the drug, its physiological effects, and its influence on the various forms of asthma. Dr. Sée begins with six grains of the iodide given thrice daily, and increases the dose to fifteen grains thrice daily. The length of treatment is, so to speak, indefinite; but ordinarily at the end of two or three weeks, when the attacks are diminished in severity, he reduces the dose of iodide to eight grains thrice daily. From time to

time the treatment may be intermitted for a day; but a longer interval may be followed by return of the attacks. In order to prevent any disagreeable effects from the iodide Dr. Sée ordinarily adds a small amount of opium, which also serves to diminish the cough. When the cough is not particularly troublesome, but dyspnoea is a prominent symptom, he prescribes chloral to the amount of thirty to forty grains at night. The effect of the iodide upon the attacks of dyspnoea is quite striking. The respiration becomes free in a few hours, or, if the iodide has been administered shortly before an expected paroxysm, this does not occur. In cases of catarrhal asthma the latter disappears rapidly, but the former persists some time. In cardiac asthma the iodide is of little avail unless where hypertrophy or atrophy of the cardiac substance is present. Some inconvenience occasionally attends the too prolonged use of the iodide. Hæmoptysis occasionally occurs, so that this medicine

is not to be employed in tuberculous asthma. Loss of appetite, when this occurs, may be obviated by suspending the medicine for a few days or diminishing the dose. Emaciation to a slight degree may occur, but this is of no moment. Dr. Sée finally asserts that the iodide cures in almost every case. In the same communication he praises the iodide of ethyl inhaled to the amount of six to ten drops six or eight times a day. It produces no anæsthetic or soporific effect, but arrests the onset of an attack promptly. The iodide of ethyl has also been used successfully in cardiac and bronchitic dyspnoea, and in cedematous laryngitis. x.

BROMIDE OF POTASSIUM IN NEUROSES AND OTHER AFFECTIONS OF THE HEART.—Angrisani (*Four. des Sci. Méd.*, 1878, p. 108; from *Rivista Clin. di Bologna*) speaks as follows. 1. Bromide of potassium exercises a depressing effect on the vaso-motor centres and on the cardiac plexus. 2. It does this in a peculiar manner which is not known: it does not consist in the influence which the bromide has upon the smooth fibres of the capillary vessels. The narrowing of the calibre of capillaries probably depends upon extension of the influence of the bromide upon the vaso-motor nervous centres alone, in physiological experiments. 3. Bromide of potassium, unlike digitalis, has no influence upon the muscular fibres of the heart, nor has the latter any upon the arteries. 4. Whatever may be the state of the myocardia, bromide of potassium is the most powerful and most serviceable agent when functional anomalies of the heart, as frequent intermittence, arhythmia, etc., are to be corrected. 5. It cures surely and promptly angina pectoris and cardiac spasms when these are neuroses pure and simple. In cases dependent upon profound anatomico-pathological alterations of the heart or vessels, or compression of these organs, the bromide shows itself a powerful palliative for a greater or less period. 6. In those neuroses more conveniently treated by direct means the bromide succeeds in remedying radically the productive cause of those cases. x.

EXTRACTION OF A FOREIGN BODY FROM THE KNEE-JOINT THROUGH THE POPLITEAL SPACE.—Champonnière (*Cbl. f. Chir.*, 1878, p. 248; from *Jour. de Méd. et Chir. Pratique*) treated a man 51 years of age, who suffered from chronic effusion into the left knee-joint. He frequently felt a "crack-

ing" in this joint, and occasionally a sudden sharp pain would stop all movement. Above the patella a foreign body of considerable size could be felt, which could easily be moved from side to side. A few days later this had disappeared, and could be felt after some search on the outer side of the popliteal space. Champonnière made, with the careful use of the antiseptic method, an incision in the outer side of the popliteal region extending to the posterior capsule of the knee-joint, seized, by the aid of forceps thrust through the opening, the foreign body pinched up in the capsule, then opened the latter and extracted the body. A small quantity of synovial fluid escaped. The body was hard, of a knobby fibrous appearance, and about the size of a large bean. The wound was washed out with a 5 per cent. carbolic acid solution, a drainage-tube introduced, and the opening closed by means of sutures. At the end of sixteen days the scar had formed, and perfect freedom of movement was restored to the knee-joint. x.

CAN SYPHILIS BE TRANSMITTED BY MEANS OF THE SPERMATIC FLUID?—A contribution to this much debated topic is to be found in the *Annales de Dermatologie et de Syphiligraphie*, tome 8, No. 6. It is in the form of an original article by Dr. H. Mireur, known as the author of an admirable thesis entitled "*Essai sur l'Hérédité de la Syphilis*." In this article Mireur, after showing the inadequacy of several observations which have been brought forward to prove the inoculability of the spermatic fluid of a syphilitic person, adduces several cases coming under his own notice, in which inoculation was attempted without success. A patient in full evolution of secondary syphilis, having roseola papulosa, mucous patches, etc., provided fresh spermatic fluid, which was immediately inoculated upon four persons absolutely free from syphilitic antecedents. Upon two the spermatic fluid was introduced into the arm by charged needles. Upon a third a blister was produced upon the leg the size of a ten-cent piece, and a bit of charpie soaked with the spermatic fluid was placed on the raw surface. On the arm of the fourth person an abrasion was made over the insertion of the deltoid, and several transverse incisions were made at this spot. The matter to be inoculated was placed upon this abraded surface as in the previous cases. With the exception

of a slight local inflammation, no result whatever ensued: no symptoms of syphilis, of any kind, were noticed. Mireur points out the frequency of contagion by the blood and the secretion of mucous patches, comparing the statistics of this variety of infection with those adduced in that under consideration, and analyzes the assertions of the writers who maintain the infectiousness of the spermatic fluid. These will not bear close examination at all, and we are inclined to think that Dr. Mireur has so far decidedly the advantage in the strength of the proofs he brings forward. x.

THERAPEUTIC VALUE OF FERROCYANIDE OF POTASSIUM.—Professor J. Regnaud and Dr. G. Hayem, thinking that the therapeutic action of ferrocyanide of potassium had never been thoroughly studied, undertook the investigation themselves. The account of their work is given in full in the *Bull. Gén. de Thérapeutique* for March 30. The conclusions at which they arrive are not favorable to the value of the drug as a ferruginous tonic. These conclusions are as follows. 1. Ferrocyanide of potassium is inactive as a ferruginous medicine, and it contributes nothing to the colored elements of the blood. 2. The organo-metallic radical is not modified in the organism: like the iron it remains inert; the cyanogen exercises no effect, since the ferrocyanide may be administered by the scruple daily for weeks together without affecting the health. 3. This salt exercises no appreciable effect either upon diuresis or on the production of urea.

SIX CASES OF EXTIRPATION OF RANULÆ, ACUTE AND CHRONIC.—Michel (*Cbl. f. Chir.*, 1878, No. 10; from *Gaz. Hebd.*) describes briefly six cases of cystic tumors under the tongue, with the view of showing the origin and treatment of these growths. The first of these cases was that of a girl of 18, who had a tumor the size of a goose-egg under the tongue. The ducts of Wharton and Rivinus were patent to the sound, and therefore the cyst did not have its seat in the salivary ducts. Extirpation was practised as follows. An incision of the mucous membrane was made, which showed the ducts of Wharton lying in front, the ranine vessels behind. The cyst was then carefully dissected out, in part with the point of the knife, in part with the handle, from the under surface of the tongue. With the exception of a conical process which reached down to

the hyoid bone, the separation of the cyst gave but little trouble. The day after the operation, swallowing was performed with difficulty; but after this the patient made a speedy recovery.

In a second case, where the cyst-wall was very thin, Michel divided mucous membrane and cyst-wall together, and then, after emptying the contents, easily dissected out the sac. This patient left the hospital, entirely cured, on the tenth day. The other four cases were healed as rapidly as this. Michel adds an account of a case reported long ago, in which the ranula was so situated that the submaxillary gland was found in front, the tongue behind, and the genio-glossus inwards from the tumor. The canals of Wharton were unconnected with the cyst. The walls of the latter were thick and fibrous: the contents consisted of concretions, which showed under the microscope tessellated epithelial cells and crystals of cholesteroline. In another case the ranula was a dermoid cyst.

Regarding the origin of these cysts, this, if we may judge from the contents—now salivary, now mucous, again epithelial or cholesteary,—is various.

Therapeutically, M. Michel recommends extirpation, since none of the above-mentioned cases relapsed even after many years. This plan is preferable to iodine injections, etc., as more thorough. He supplements the histories of his own cases with still another, dating from 1766, where the cyst filled the patient's entire mouth, and projected out. The incisor, canine, and first bicuspsids were pressed out of their sockets; the left upper canine had bored through the commissure of the lips, etc. The patient could only take fluids, and with difficulty these. The tumor was extirpated, and did not return. x.

PREPARATIONS OF VALERIANATE OF ZINC.

Pills.—℞ Zinci valerianat., gr. ix;
Tragacanth., gr. xxx.

M. Ft. in pil. no. xij.
Sig., one morning and evening.

Powders.—℞ Zinci valerianat., gr. ix;
Pulv. sacch. alb., ℥ij.

M. Div. in chart. no. xxiv.

Sig., one to four a day, according to the indications.

Potion.—℞ Zinci valerianat., gr. iss;
Aquæ destillat., f̄ss;
Syrupi simplicis ad f̄ssiv.

M. Sig., teaspoonful every half-hour.

PHILADELPHIA

MEDICAL TIMES.

PHILADELPHIA, MAY 25, 1878.

EDITORIAL.

HYPODERMIC MEDICATION.

SOME months since, we editorially called attention to the great abuse of the hypodermic method of medication by many of the profession, and expressed the opinion that it should never be employed except when urgently demanded for some specific purpose. It is, therefore, with some satisfaction that we see others waking to the dangers of the method.

In the May number of the *Chicago Medical Examiner* is a paper, by Dr. G. F. Ingalls, upon the employment of morphia in this way. His attention having been aroused by an unfortunate personal experience, he directed circulars of inquiry to eighty physicians of the Northwest, and thereby brought to light seven fatal cases not heretofore reported. In two of these the amount given was believed to be only that habitually used by the profession, but was not positively ascertained; in one case one-fifth of a grain with one-seventy-fifth of a grain of atropia, and in another one-fourth of a grain, given for sciatica, proved fatal. One death was from two doses of morphia of one-third of a grain each, with an interval of four hours between the first and second doses. In this instance the morphia was given to relieve the intense pain attending invagination of the intestines. Death from narcotism ensued six hours after the second dose.

Another death was caused by two doses of one-fourth of a grain each,—the first given internally.

The seventh case we give partially as reported:

"I was called to see Mr. B., who lived seven miles away, at eight o'clock P.M.,

and I found him suffering from myalgia of the muscles of the back. I at once administered one-sixtieth of a grain of sulphate of atropia hypodermically; after waiting till dryness of the throat and other constitutional symptoms showed themselves, and finding it gave him no relief from pain, I gave him one-fourth of a grain of morphia by the mouth. In three-quarters of an hour from the time I gave the morphia, the man was still groaning with pain, and then I gave one-fourth of a grain of morphia hypodermically, which soon quieted the patient." The doctor left, to be summoned two hours later to find the patient in a lethal stupor.

Besides these actually fatal cases, a much larger number were detailed in the replies to Dr. Ingalls's circular in which most serious and alarming symptoms were produced.

It will be seen that in several of these fatal cases the patient was suffering intense pain at the time of the injection: so that pain is not a surety against an overwhelming action.

IF boldness of proposal be followed by equal boldness of execution, the coming months of July and August will be memorable in the medical annals of New York city. The Committee on Abuses of Medical Charities offered to the New York County Medical Society a series of resolutions in regard to the abuse of medical charities, culminating in the assertion that the "practice of gratuitous professional service in charitable institutions leads to professional poverty, is counted unbusinesslike, and is held odious before the eyes of the fraternity; and that after the fourth day of July, 1878, it shall be considered a sufficient cause for disfellowship."

It is affirmed in the preamble to the resolutions offered that "there is now much actual suffering for the necessities of life in the ranks of the medical profession." As hungry men are not much moved by diffi-

culties or remote consequences, it is possible that the resolution may pass and the attempt be made to enforce it.

Without a more intimate knowledge of medical politics in New York, we cannot say how far the County Society represents the New York profession.

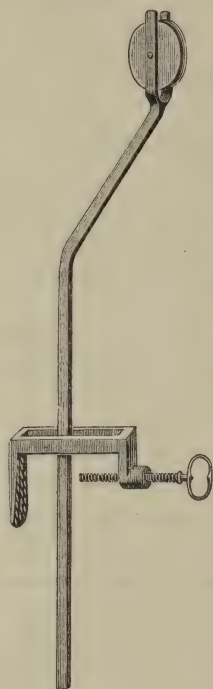
If it do not do so to any extent, then the resolution is safe; but if the Society comprise within its ranks many hospital physicians, a disruption must ensue upon its adoption. The bull, when his meadow was invaded, may have had the right and the logic on his side, and may have even been a very powerful creature, but the locomotive was too much for him. Hospital managers will not, in these times of pinching, add to their embarrassments by salarizing their medical staffs; and medical staffs cannot afford to resign, even at the command of a county medical society; if they do, their places will not long remain empty: between the humor of the hour of a county medical society and a permanent position in the hospital, the choice will usually be an easy one. If, however, the County Society be entering upon a course of action sufficiently consistent and persistent, it will at first drive out of its ranks most of the hospital class; but, possibly, in the end it may so affect public opinion as to lead to the payment of medical services by charitable institutions. Such change must be a very slow one, and the chances seem altogether against the Society.

LEADING ARTICLES.

DR. LEVIS'S EXTENSION APPARATUS.

THE application of the principle of weight-extension to the treatment of fractures and in diseases and deformities of joints is of such importance as to require more effectual and convenient apparatus than is ordinarily used. It is desirable that the mechanical appliances for this object should be convenient and inexpensive, portable, not cumbersome, and readily and

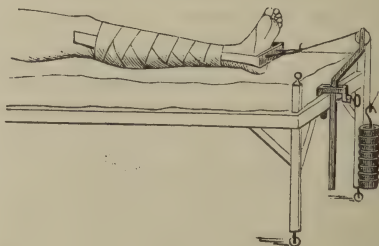
securely applicable to various forms of bedsteads or couches. It is also important that the amount of tension by weight can be estimated and varied to the requirements of the case.



All these requisites are secured in an accurate and mechanical manner by the apparatus devised by Dr. R. J. Levis,

which has been used for a number of years in the Pennsylvania Hospital, and also to some extent in the hospitals of London.

The wood-cuts will render a full description of the apparatus unnecessary. An adjustable clamp holds in position the upright rod which supports the pulley. The rod and pulley can be adjusted at any required elevation. The clamp will grasp either a wide or narrow bar at the foot of the bedstead, or it can be attached to the back of a chair, to the end of a table, or to any object of sufficient security and steadiness.



The amount of weight-extension is simply effected by a series of one-pound weights, through the centre of each of which a hole is drilled, and the weights slide on a rod bent into the form of a hook at the top for catching in a loop in the extending cord.

The clamp can be reversed so as to grasp

an under edge when such hold is more convenient.

The apparatus is made by Gemrig, 109 South Eighth Street, and Kolbe, 15 South Ninth Street, Philadelphia, and by Reyn-nders, 309 Fourth Avenue, New York.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 14, 1878.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

(Continued from page 379.)

Fibroid phthisis and bronchiectasis. Presented by Dr. JOHN GUITÉRAS.

FROM the notes of my resident physician, Dr. Musser, I extract the following history. Susan M., æt. 56, single, domestic. Admitted to the Philadelphia Hospital, November 17, 1877. Family history very favorable. With the exception of typhoid fever, she does not remember having any acute sickness. For the past twenty-two years she has had a cough, with abundant muco-purulent expectoration; but she has been able to do general house-work up to four days before admission, although she has been of late losing flesh and strength. She thinks the fever commenced a few days before admission. She never had syphilis.

On November 20, I found her very weak and emaciated. My notes of the physical signs were as follows. *Inspection.*—Marked depression of the infraclavicular regions, more so of the right. Right nipple higher than the left. There is no retraction of the sides. Posteriorly, there is no difference in the shape of the two sides. There is decided deviation of the trachea to the right side. *Palpation.*—The left apex expands more than the right. There is no difference at the bases. The vocal fremitus is increased throughout the right side. Mensuration shows the circumference of the right side to be half an inch less than the left.

The only pulsation visible about the chest is at the second interspace, one inch to the right of sternum. There is also some pulsation in the epigastrium. A distinct impulse is felt at the former place, and a very slight one behind the cartilages of the left false ribs.

Percussion.—There is resonance throughout the left chest, encroaching somewhat beyond the median line in front, and replacing the cardiac dullness. The hepatic dullness begins at the fifth rib, and just within the line of right nipple it becomes continuous with the cardiac dullness. The latter extends up

to the third rib, where the tympanitic resonance of a cavity commences.

Auscultation.—The respiratory movements are irregular. There is harsh breathing over the left apex. At the right apex there is marked cavernous breathing, and amphoric whisper. The gurgles and the heart-sounds, which are loudest at the second right interspace, do not present any metallic echo. The heart-sounds are inaudible at the left axilla, and well marked in the right. At a previous examination I had found that the gurgles and cavernous puff were influenced by the cardiac rhythm during inspiration. Bronchial breathing is heard below the cavity, and the cavernous breathing is well marked behind.

Dyspeptic symptoms were well marked. No albuminuria. She had menstruated up to her forty-eighth year. The liver was slightly enlarged. The expectoration was muco-purulent, and of reddish-brown color. The breath extremely fetid. There had been no hæmoptysis. The temperature ran at first between 99° and 100°, during the last two weeks it frequently reached 101° in the evening, and she had night-sweats. The pulse and respirations averaged 100 and 28. During the last week they rose to 120 and 40.

She lay in a listless condition, without any pain or dyspnoea, and finally died on the 21st of December.

Post-mortem.—The right pleura is adherent throughout, the left only at the apex. Except over the cavity in the right apex it is not very thick. The cartilages of the bronchial tubes are softened in some places, and they are distinctly seen through the thin mucous membrane. At some places the lung-tissue may be seen through the membrane. The transverse muscular fibres are also very prominent and isolated, as well as the longitudinal fibrous bands. There is no ulceration, except where the cavities have formed. The inferior right bronchus is dilated. The superior one is thickened, and about an inch from its orifice it merges into an enormous cavity. This occupies the superior lobe and upper portion of the middle. The walls of the cavity present many anfractuosities and bands of fibrous tissue. Its upper wall is made up by the pleura. The pulmonary tissue below the cavity is much indurated, and of a slate color. The section is extremely granular, and at some spots marbled with a grayish color. The mouths of the blood-vessels and bronchioles appear open on the surface of section. The lower part of the lung is less affected, but the bronchial tubes are thinned out, and uniformly though slightly dilated. Caseous masses are quite rare; they present a grayish color, they are very granular on section, and are broken down with great difficulty. They are evidently developing in young formations of fibrous tissue. The left lung is not so much affected, but the upper lobe presents some

caseous masses of the more common appearance. The upper left bronchus presents a well-marked dilatation before it merges into a cavity much smaller than that upon the right side.

The right side of the heart was hypertrophied and dilated. The other organs were healthy. There was very slight lateral curvature of the spine.

Remarks.—It may be observed that though during life the position of the heart was so carefully determined, and found to be very unusual, yet very little mention of it is made in the post-mortem notes. The reason of this is that this autopsy was made in the usual manner, and was therefore worthless as far as studying the position of heart was concerned. I have more than once been surprised at finding a heart far nearer its normal position than the physical signs had led me to suppose. Even the auricles are not found in position to explain the pulsation detected perhaps at the second right interspace. The reason is obvious: on opening the thorax, the less affected and vicariously distended lung falls to near its usual place, and the heart, without support, also returns towards its normal position. I am sure that many autopsies are rendered worthless by our forgetting the differences that must exist between the distended lung, and the lung collapsed after opening the thorax. The relations are altered, and I feel certain that physical diagnosis loses in this manner much of what it might gain from the post-mortem table. All this can be avoided by ligating the trachea before opening the thorax. A great deal may also be learned by inflating the lung *in situ*.

In the present instance the bronchiectasis was primary. The patient had had chronic bronchitis for many years before any evidences of phthisis made their appearance. The same may be said of two other cases I have had lately under observation. In both of these the bronchiectasis was bilateral, as every pulmonary lesion should be that is consequent upon bronchitis. In one of them, a middle-aged colored woman, the signs and the post-mortem revealed coexistent fibroid change. In the other one, living yet, I do not feel sure of the existence of fibroid phthisis. In these three cases the dilatation was more marked in the upper lobe of the lung; at least the tendency to excavation of the dilated tubes has been greater at the upper lobes in the five cases of bronchiectasis with cirrhosis that I have noted. Of two of these I remember but little beyond the point just mentioned, and that the pulmonary symptoms developed in the course of Bright's disease (large fatty kidney). The renal symptoms became almost latent after the evidences of phthisis became well marked.

About the relations of cause and effect between cirrhosis of the lung and bronchiectasis,

it may be said that they are mutual. Few cases of chronic bronchitis terminate in pronounced dilatations, and in these few cirrhosis is very apt to develop, as a direct consequence of the collapse of surrounding lung-tissue, and also of the inflammatory action going on in the walls of the tubes. It is well known that pulmonary caverns are generally surrounded by fibrous-tissue walls. It seems to me that the dilated bronchi act the parts of old cavities disseminated throughout the lung, thus giving rise to a diffuse and bilateral cirrhosis. So in the present case this is not rarely accompanied with epithelial accumulations in the air-vesicles. On the other hand, cirrhosis as a primary disease is rare, whether due to pneumonia, pleurisy, old age, syphilis, heart-disease, or the inhalation of certain irritants. Whatever its cause, it frequently terminates in bronchial dilatation. In this manner one condition is as frequently primary as the other. It is in the latter class of cases, especially when due to chronic pleurisy, that cirrhosis and bronchiectasis are more apt to be unilateral. It is of interest to note in this case the probable connection of the bronchitis with typhoid fever. I also wish to state that we can exclude syphilis, heart-disease, anthracosis, and siderosis, from consideration in the present case.

Gangrene of the lung following senile pneumonia. Presented by Dr. R. G. CURTIN.

Mrs. W., aged 77, had a cough for four months, which was rather worse at night. The expectoration at first was scanty, but the second month she commenced to expectorate a tough, gelatinous mucus. About four weeks before her death her respiration became embarrassed, and the cough grew worse, accompanied by considerable fever; her pulse ran as high as 120 at times; some dulness posteriorly on the right side; coarse crepitant râles over the same region. Four days before death she began to expectorate a dark-colored and very offensive material. The cough was very harassing. She died slowly and quietly. This case was under the care of Dr. De F. Willard.

Post-mortem.—All the superficial arteries were very much degenerated. The radial arteries were like a string of beads. The aorta on the inner surface was almost brittle.

Lungs.—Around the root of the right lung were found several pulpified spots, oval in shape, the largest being about two inches by one and a quarter inches. The lung-tissue in these places was simply melted down, being almost natural in color. The softened place was not surrounded by indurations, nor was there any evidence of congestive pneumonia, consolidation, or infarction. The odor, at the examination, was characteristic of gangrene of the lung. The bronchial glands were not enlarged, nor was there any evidence of cancer.

Gangrene of the lung following latent pneumonia. Presented by Dr. R. G. CURTIN.

A. B., aged 34, single. Previous to her last illness her health had been quite good. There was no hereditary tendency to tuberculosis. She had been sick with latent pneumonia about four or five weeks when she began to expectorate material characteristic of gangrene of the lung. About three weeks after the advent of the gangrene she died of exhaustion.

Post-mortem.—The right lung was found to be diseased throughout. The middle and lower lobes were in a state of gray hepatization. The upper lobe was entirely destroyed by the gangrenous process, the cavity being traversed by the larger blood-vessels and bronchi, which had resisted the action of the disease. The other organs were healthy.

Metastatic abscess of lungs following severe wounds of scalp, cranium, and buttocks. Presented by Dr. E. O. SHAKESPEARE.

The specimen was obtained by a post-mortem examination made for the coroner on the body of Patrick Murray, at the Presbyterian Hospital. I know nothing of the history of the case, except from inquiries of the resident physicians of the hospital, who were present at the autopsy, one of whom has kindly furnished me with the date of the subject's admission, and a temperature-sheet, which presents some peculiar curves:

"PRESBYTERIAN HOSPITAL, February 12, 1878.

"DEAR DOCTOR,—The following is a concise history of the case we posted some time ago. P. M., aged 20, white, laborer, single; personal habits good; was admitted on the evening of December 20, 1877. He fell forty-five feet, striking his buttock against a bucket, which was coming up. The bucket turned him, and he fell ten or fifteen feet farther, striking upon his head. Examination revealed a lacerated wound of the scalp about one inch in length over the occipital region, extending down to the bone. The periosteum was torn off for a space of a half-inch. Found no other lesions of the head. The buttocks were contused. The left had a deep wound extending into the muscular tissue. The right buttock was greatly ecchymosed. The temperature-sheet which I enclose is very remarkable, even for a pyæmic case, and will be of more interest to you than anything else I could send:

"Dec. 29. M. 102½°; E. 103½°.—Dec. 30. M. 102°; E. 104½°.—Dec. 31. M. 104½°; E. 106½°.—Jan. 1. M. 105½°; E. 104°.—Jan. 2. M. 104½°; E. 105½°.—Jan. 3. M. 104°; E. 106½°.—Jan. 4. M. 103°; E. 104½°.—Jan. 5. M. 105°; E. 106°.—Jan. 6. M. 105°; E. 107½°.—Jan. 7. M. 104°; E. 103½°.—Jan. 8. M. 103°; E. 105°.

"Very respectfully,
"W. C. HOLLPETER, *Res. Surg.*"

It may be stated, in addition to the above, that, notwithstanding the distance fallen, and the injuries to the head, there were no marked head-symptoms; that nearly ten days after injury the patient began to exhibit symptoms which soon developed into those of a marked pyæmia, from which he succumbed nineteen days after injury. The following is a brief abstract of the notes of the autopsy, made January 9, 1878:

External examination.—A purplish line under each eye; slight ecchymosis of bulbar conjunctiva; pupils slightly and equally dilated; healing lacerated wound of left buttock, about an inch deep; cannot run probe below its bottom. On back of head, little to right of median line, an incised wound of scalp, partly healed, one inch and three-quarters long, edges slightly swollen; at bottom, bone denuded of pericranium; could not feel fracture or depression by using end of finger.

Internal examination.—Head.—Numerous extravasations of blood into deep layers of scalp, and between latter and skull, extending almost over whole cranial vault; this more marked around seat of external wound. Upon first glance, seemed to be no break in surface of bone at seat of wound, but close inspection showed two faint, narrow, short cracks, and a scarcely perceptible depression. Opposite this, inner table showed stellate fracture with some depression of inner plate of right parietal bone. In outer plate of left parietal, a small, fine linear fracture; opposite, in inner plate, a stellate crack. In the frontal bone, commencing at coronal suture, one inch to right of median line, and extending to right superciliary ridge, a sharp, gaping linear fracture through the whole thickness of skull; gaping line of latter fracture filled with blood and lymph. This material was found in very thin layers on inner surface of calvarium, around the region of the fracture. Dura mater, everywhere readily separable from calvarium, was covered along median line by thin layer of blood and lymph; membrane not adherent to pia mater, nor was it inflamed; inner surface apparently normal. No marked changes in other membranes, nor in cerebrum or cerebellum.

Thorax.—Some inflammation of anterior mediastinum.

Right Lung.—Tolerably recent adhesions to wall of chest, particularly near apex, and posteriorly. No effusion into pleural sac.

Left Lung.—Bands of adhesion more numerous, were mainly lateral and posterior, binding lung firmly to thoracic wall. Some straw-colored effusion in left pleural cavity, in it flakes of lymph and pus; surface and substance of each lobe of both lungs studded with numerous circumscribed abscesses, varying in size from that of a pea to that of a walnut, some round, others wedge-shaped, others between these two forms; when at surface, latter raised; pleural covering here

thickened; section through abscesses showed them to be surrounded by an area of granular hepatization, beyond which was another zone of intense congestion; lung-tissue between these abscesses crepitant, but much congested, particularly posterior portions; abscesses rather more numerous in left than in right lung.

Heart.—Chicken-fat clot in right ventricle, sending prolongation beyond branches of pulmonary artery; organ otherwise normal, as were also large vessels; liver normal; spleen showed a subcapsular rupture of pulp in a line extending one inch with surface; right kidney slightly congested, otherwise normal; ureter and bladder normal. Around left kidney, which itself was not unhealthy, a large perinephritic collection of pus; infiltration of subperitoneal connective tissue extending from spleen to left groin; left psoas muscles softened and infiltrated with pus; probe could not demonstrate any connection between this collection of pus and the wound of buttock, although lymph glands opposite its location were enlarged and purulent; no involvement of joints could be determined.

(To be continued.)

REVIEWS AND BOOK NOTICES.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part III. ECZEMA (SQUAMOSUM), SYPHILODERMA (ERYTHEMATOSUM), PURPURA (SIMPLEX), SYPHILODERMA (PAPULOSUM ET PUSTULOSUM).

The present fasciculus of Dr. Duhring's work fully upholds the reputation gained by the first two parts. Well-chosen instances showing the every-day features of the diseases portrayed are accompanied by lucid and concise descriptions of the cases themselves, the word-pictures supplementing the portraits and the portraits illustrating the text in such a fashion as to form a trustworthy guide to the student and a satisfactory resort to the puzzled practitioner. Want of space prevents a detailed and critical examination into the merits of the pictures, but especial attention may be called to the plate representing eczema squamosum, where the tone of color belonging to this affection and the powdery lightness of the desquamating epithelium around the diseased patches are well brought out under conditions of unusual difficulty. The picture of syphiloderma papulosum et pustulosum is, to our mind, one of the best chromo-lithographic representations of skin disease we have ever seen: the elevation of the papules and pustules is well expressed, and the little crater-like ulcers scattered here and there where the pustules have broken down are shaded with such art as to give an almost stereoscopic effect. x.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, WITH THE PRESIDENT'S ADDRESS, AT THE FIRST MEETING, held at Niagara, September 4, 5, and 6, 1877. New York: G. P. Putnam's Sons, 1878. Pamphlet, 42 pp.

An abstract of the proceedings of this the youngest of our American special medical associations was given in the *Medical Times* for September 29, 1877. The various papers read at that time have for the most part now been published in the different journals of the country, so that the profession at large can gain some idea of the work done at the Niagara meeting. The pamphlet before us contains the address of the president, Prof. Jas. C. White, of Boston, on "Dermatology in America;" an address full of interest in its relation to the history of medicine in this country, cheering in its evidence of scientific progress, and written in so agreeable a style as to be most pleasant reading. Appended to the address is a list of "contributions to dermatology" made by American physicians, a list comprising above three hundred titles, among which are atlases, treatises, and textbooks, numerous papers containing the results of original clinical and pathological investigations, translations, reviews, and abstracts,—a noble array of work, much of it well done, some of permanent value, and well supporting the reputation of the dermatologists as the most active specialists in the medical profession. x.

GLEANINGS FROM EXCHANGES.

MALIGNANT SCARLATINA TREATED BY SALICYLIC ACID (*The Medical Examiner*, February 21, 1878).—A recent number of the *Berliner Klinische Wochenschrift* contains an account of a severe case of malignant scarlatina in the treatment of which salicylic acid, given internally and injected into the nose, produced the happiest results. The patient was a boy, thirteen years of age, who had been suffering for some weeks from gastro-enteritis. On the second day of the scarlatinal eruption, diphtheritic patches appeared in the pharynx and nasal passages and on the integument of the nose and lips. These were accompanied by ulceration, and a copious discharge from the nose with a peculiar fetid odor. The pulse was 150; the temperature 105.8°. A grain of salicylic acid was administered every hour, and a solution, containing one grain to the ounce, was injected into the nasal cavities every two hours. Soup, wine, and eggs were freely given, and the patient's body was frequently sponged with cold water. Under this treatment the symptoms began to subside. After the first injection the fetid odor commenced to disappear. Altogether the boy took ninety grains

of the acid. He was convalescent in three weeks. Symptoms of intestinal catarrh apparently caused by the acid yielded readily to treatment.

SUBCUTANEOUS INJECTION OF CHLOROFORM AND ETHER (*The Clinic*, February 16, 1878).—M. Presmer has tried the deep injections of chloroform in cases of neuralgia, and has met with the marked success which followed their use in England and America. Chloroform is preferable to morphia, because its prolonged administration does not engender an analogue of morphinism. M. Gelle has successfully employed the hypodermic injection of ether in the treatment of convulsions, and he has succeeded with two injections in interrupting convulsions produced in a child of seven months by an incipient pneumonia. Both authors warn against the danger of embolism which would be incurred by an injection into a vein.

OZÆNA AND ITS TREATMENT (*The Practitioner*, February, 1878).—Dr. Rouge read to the Congrès International des Sciences Médicales, held at Geneva, a paper on ozæna, in which he stated that, as a rule, the disease originates in suppuration of the nasal fossæ, or the sinuses connected with them, as the frontal, ethmoidal, sphenoidal, and the antrum. The suppuration appears to be always due to some alteration of the bones. The larger the extent of bone affected, the greater the degree of ozæna, the fetidity of the breath being increased by the putrefaction of the gums. The treatment should consist in frequent washing out with injections of the nasal fossæ, insufflation of astringent, caustic, and disinfectant powders, cauterization with solid chemical caustics, the employment of the galvano-cautery, extraction of sequestra, drainage of the sinuses. To effect these proceedings the nose should be detached by the sublabial operation, which permits all the parts to be examined, and also allows the extirpation of the necrosed parts. No cicatrix is perceptible after the operation. In addition, general treatment should be attended to.

MISCELLANY.

ONE of the recent Paris Societies is the Société d'Autopsie Mutuelle. Its adherents are required to leave, by a will made out in due form, their bodies at the disposal of the Society for post-mortem study. M. Louis Asseline, editor of the *Rappel*, an extremely radical paper, the first member who has been brought under the operation of the new Society, was recently dissected by Professor Paul Broca.

TREATMENT OF FURUNCLES—NOTE ON A NEW PROPERTY OF ARNICA.—As the result of physiological experiments, Dr. Planat (*Lyon Medical*) has been led to the use of

arnica in all cases of superficial acute inflammation, as furuncles, anginas, erysipelas, etc. He states that arnica aborts all furuncular eruptions, except those accompanied by diabetes, with remarkable promptness.

TRANSFUSION IN UTERINE HEMORRHAGE.—In the *Archives de Tocologies* for December, 1877, there is a remarkably successful case, in which transfusion was performed for severe menorrhagia in a girl thirteen years of age. The apparatus of M. Marthien was used, the blood not being defibrinated. The quantity employed was 170 grammes. The patient rapidly revived during the operation. Afterwards the feeling of warmth at first felt gave way to shivering and extreme thirst. The pupils, which had been widely dilated, became closely contracted, and this condition continued for four or five hours. The following morning the pulse was 145, the hemorrhage insignificant, and the sickness less frequent. Some febrile disturbance followed, but the girl gradually became convalescent, and she left the hospital, about two months from her admission, in fair condition, but still very pale.

NOTES AND QUERIES.

CAMP STAMBAUGH, WYOMING, April 28, 1878.

EDITOR PHILADELPHIA MEDICAL TIMES:

SIR,—In connection with the case of strangulated hernia reported in the *Times* of March 30, 1878, the following extract from Dr. Louthan's letter, just received, is of interest:

"J. S., the man we operated on, is entirely cured. . . . The tenth day after your departure I turned him over to the mercies of nurse and cook. I continued the quinine and brandy up to that time. Bowels regular, with one exception; on fifth day bowels relaxed, stools discolored with blood. Gave acetate of lead gr. vi, opium gr. ij. No trouble afterwards. (Signed) J. M. LOUTHAN."

Yours truly, A. P. FRICK, A. A. Surgeon U.S.A.

EDITOR PHILADELPHIA MEDICAL TIMES:

THERE is a patent affair, known as the Holman Liver Pad, that has gained a great reputation in this vicinity for its wonderful cures of dyspepsia and liver trouble. Can any of the readers of the *Times* give the medicinal ingredients, if any, of the pad, and why benefit is derived from wearing it?

A SUBSCRIBER.

A SPECIFIC FOR WHOOPING-COUGH.

PHILADELPHIA, May 10, 1878.

DR. H. C. WOOD:

DEAR SIR,—I write you to say that I believe I have succeeded in using a specific for whooping-cough.

Believing that whooping-cough is the result of the location of a specific contagium on or in the mucous membrane of the respiratory apparatus, from my experience with the muriate and carbonate of ammonia I was of the opinion that the beneficial results obtained by their use in the treatment of bronchitis could be ascribed to a stimulant effect on the respiratory mucous membrane; as the ammonia is eliminated from the system through this membrane. In looking over the list of antizymotics I rejected all the familiar preparations as most likely useless, or they would have been found useful long since. I concluded that to subserve the purpose indicated I must have an antizymotic that will be eliminated by the respiratory mucous membrane, and the only thing likely to answer the purpose would be the picrate or carbazotate of ammonia.

I have treated six children suffering with whooping-cough (at the Howard Dispensary) in accordance with the above-related conclusions, and I am very happy to state, with the most gratifying results. The mothers assured me that after their children would take two or three doses of the medicine the paroxysm would relax in severity, and in a couple of days would entirely subside as a paroxysmal cough with the well-

known whoop, and a simple cough of ordinary laryngo-bronchitis remain. I gave the remedy in this way:

R. Picrate of ammonia, gr. i;
Muriate of ammonia, gr. xxiv;
Powdered extract of liquorice, 3i;
Water, ℥iij.

M.—S. Teaspoonful every 3 hours to a child 6 months and under, doubling the quantity for a child of about one year to two years of age, and giving as much as $\frac{1}{8}$ gr. to a child 3 to 5 years of age.

It might be a coincidence that these six children (belonging to three different families) recovered under the use of the medicine: but I, of course, believe it to be solely the result of the picrate of ammonia. My opportunity for observing whooping-cough in private practice is very limited. Knowing that you are specially interested in therapeutics, I would like you to submit the treatment I have suggested to a test, provided it impresses you favorably.

I have requested several of my friends in the profession to give it a trial. So far as I know, the treatment of whooping-cough heretofore has been quite discouraging, especially to parents, and I am *very* sure there would be no harm done or time lost by the treatment with picrate of ammonia.

With very much respect, I remain truly yours,

Z. T. DELLENBAUGH.

CAMDEN, N.J., May 9, 1878.

ED. PHILADELPHIA MEDICAL TIMES.

Please notice in your journal that any of the medical profession wishing to attend the New Jersey Medical Society's annual meeting, May 28, at Spring Lake, Monmouth county, can obtain orders for excursion tickets from Camden and return, \$3.35, good for five days (May 28 to June 1). I have a number of the orders, and will send them to any of the medical fraternity. We desire to have as many from Philadelphia as can attend, and feel assured it will repay them.

Very truly yours,

H. GENET TAYLOR, M.D.

AMERICAN MEDICAL ASSOCIATION.

PHILADELPHIA, 1400 PINE STREET.

The twenty-ninth annual session will be held in the city of Buffalo, N.Y., on Tuesday, Wednesday, Thursday, and Friday, June 4, 5, 6, and 7, 1878, commencing on Tuesday at 11 A.M. The chairmen and secretaries of the several sections of the American Medical Association are requested to send in (by title) the papers to come before them, with the time for reading. Also all gentlemen having papers to present, not referable to the sections, will send as above, without delay, to

THOS. F. ROCHESTER,

Chairman of Committee of Arrangements, Buffalo, N.Y.

Orders for excursion tickets from Philadelphia to Baltimore and return, sent on application to permanent secretary, one fare and a half; Baltimore to Philadelphia and return, \$4; Canada Southern & Wabash R.R. will issue to delegates and families at rate of one-half fare. Present certificate of appointment. This reduces fare one-half from St. Louis, Toledo, Deposit and through lines to Buffalo, thus reaching the whole Southwest.

W. B. ATKINSON, M.D.,

Permanent Secretary, 1400 Pine Street, Philadelphia.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM MAY 5 TO MAY 18, 1878.

CAMPBELL, JNO., LIEUTENANT-COLONEL AND SURGEON.—Announced as Medical Director of this Department. G. O. 4, Department of the South, May 15, 1878.

CLEMENTS, B. A., MAJOR AND SURGEON.—Granted leave of absence for one month on surgeon's certificate of disability. S. O. 37, Department of the Platte, May 1, 1878.

TOWN, F. L., MAJOR AND SURGEON.—Relieved from duty in Department of the Missouri, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 101, A. G. O., May 10, 1878.

FRANTZ, J. H., MAJOR AND SURGEON.—Relieved from duty in the Department of the East, and authorized to remain at his home on usual monthly certificate of disability until his health is sufficiently restored to resume duty. S. O. 101, c. s., A. G. O.

STORROW, S. A., MAJOR AND SURGEON.—Assigned to duty as Chief Medical Officer of the command of Lieutenant-Col-

onel L. P. Bradley, Ninth Infantry. S. O. 41, Department of the Platte, May 10, 1878.

TILTON, H. R., MAJOR AND SURGEON.—Relieved from duty in Department of Dakota, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 101, c. s., A. G. O.

WOODHULL, A. A., MAJOR AND SURGEON.—Relieved from duty at Angel Island, and assigned to duty as Post-Surgeon at Point San José, California. S. O. 69, Division of the Pacific and Department of California, May 2, 1878.

WILLIAMS, J. W., MAJOR AND SURGEON.—Relieved from temporary duty with troops at Washington Arsenal, D. C., and ordered to Department of the Missouri. S. O. 101, c. s., A. G. O.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of Texas. S. O. 101, c. s., A. G. O.

MIDDLETON, P., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 104, A. G. O., May 14, 1878.

CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, and to comply with S. O. 9, c. s., A. G. O. S. O. 92, Department of Texas, April 30, 1878.

O'REILLY, R. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of the South. S. O. 101, c. s., A. G. O.

HEIZMANN, C. L., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of the Columbia. S. O. 101, c. s., A. G. O.

CAMPBELL, A. B., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 101, c. s., A. G. O.

WILSON, W. J., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Missouri, ordered before the Medical Examining Board, New York City, for examination for promotion, and after examination report by letter to the Surgeon-General. S. O. 101, c. s., A. G. O.

STYER, CHAS., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence to June 30, 1878, and his resignation accepted by the President, to take effect June 30, 1878. S. O. 95, A. G. O., May 3, 1878.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of Arizona. S. O. 101, c. s., A. G. O.

HALL, J. D., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and ordered to Department of Texas. S. O. 101, c. s., A. G. O.

SKINNER, J. O., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the South, and ordered to Department of Arizona. S. O. 101, c. s., A. G. O.

MOSELEY, E. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to Lieutenant-Colonel L. P. Bradley, Ninth Infantry. S. O. 41, c. s., Department of the Platte.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and ordered to Department of the Platte. S. O. 101, c. s., A. G. O.

CRAMPTON, L. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and ordered to Department of Dakota. S. O. 101, c. s., A. G. O.

TAYLOR, M. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Gulf, and ordered to Department of the Missouri. S. O. 101, c. s., A. G. O.

NEWLANDS, WM. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Angel Island, California. S. O. 69, c. s., Division of the Pacific and Department of California.

SHUFELDT, R. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany Company D, 4th Infantry, from Omaha Barracks to Fort Laramie, Wyoming, and on arrival report to the Post-Commander for duty at that post. S. O. 41, c. s., Department of the Platte.

WRIGHT, J. J. B., COLONEL (retired).—Died at Carlisle, Pennsylvania, on May 14, 1878.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JUNE 8, 1878.

ORIGINAL COMMUNICATIONS.

RAPIDITY OF CIRCULATION IN THE ARTERIES.

BY ISAAC OTT, M.D.,

Lecturer on Experimental Physiology, University of Pennsylvania.

PHYSICAL laws can be applied to the study of the movement of the blood, just as in the study of hydrostatics. The physical phenomena of the circulation are, however, much more complicated, because here the conduits, instead of being made of rigid pipes and under the same pressure, are very variable in their elasticity and contractility: the pressure is constantly and rapidly changing. The best explanation of the circulation yet given was by E. H. Weber, who, strange to say, never inserted a manometer-tube into the artery of a living animal. He had, however, studied the wave-movement of water in elastic pipes. The study of the rapidity of the circulation has been the object of many physiological researches. In experimenting on the rapidity of the circulation you can either study the time it takes the blood to make a complete circulatory movement, or the time it takes a particle of blood to traverse a certain distance in a blood-vessel; with the latter I am concerned at present. Volkmann was the first who essayed to study the rapidity of the movement of the blood. The cardinal idea in all these measurements, no matter what the instrument, has been to allow the blood to run through its natural path in the artery, as for example in the carotid, where the blood leaving the heart passes through the apparatus and then on to the head in its usual way. Volkmann constructed a U-shaped tube of glass, called a hæmodromometer,* in width about three millimetres, and in length from six hundred to thirteen hundred millimetres, and then filled it with water. Then, by an arrangement of stop-cocks, the blood flows in a straight line through the apparatus, but on their reversal traverses the U-shaped tube filled with water. He then determined the time it took the blood to pass around the whole tube, and thus easily valued the rapidity. Here the difficulty was that the

blood on entering and leaving the instrument was deflected at a right angle in its course, which created considerable unnatural resistance in the path of the blood-current. Then Vierordt improved on this instrument, by inventing an apparatus called the hæmotachometer.† It is a small cube-shaped chamber, having on two sides glass plates running parallel to each other. From the top of the little chamber near the side at which the blood-current enters, is suspended a heavy pendulum playing in front of the quadrant, which is divided into degrees, the pendulum when at rest standing at zero. The two ends of the chamber have hollow conical projections on which the canulas are bound in the artery, the cavity being filled with a few drops of solution of bicarbonate of sodium. Then, when the clips are removed from the artery, the blood rushes into the chamber and carries the pendulum forward in front of the scale, the blood escaping by the exit-tube into the carotid again. Any change in the rapidity would be indicated by the place of the pendulum on the scale, although the pendulum is never quiet, because the pulsations of the heart move it. In this way the pulsations may be counted, or they may be allowed to register themselves on a smoked revolving drum. Chauveau constructed an instrument somewhat on the same plan, which was afterwards modified by Lortet‡ so as to register the rapidity. The pendulum here pierced a rubber membrane fitted into the wall of the tube and projecting by a point in the stream of blood rushing through the tube, which deflected the pen attached, registering the rapidity on a revolving paper. By a side-tube the pressure and the pulsations were registered at the same time, the whole instrument being termed a hæmodromograph. To these instruments another has been added by the fertile genius of Ludwig,§ called in German the "stromuhr." It consists of two glass bulbs opening into each other at one end, and at the other separated by a metal cap which has two tubes running into it, either communicating with either bulb by a change in the turning of the instrument 180°. One bulb is filled with purified olive oil, the other with defibrinated blood. When the instrument is in use, the oil bulb

† Die Erscheinungen und Gesetze der Stromgeschwindigkeiten des Blutes, Berlin, 1862.

‡ Recherches sur la Vitesse du Cours du Sang, Paris, 1867.

§ Arbeiten, Leipzig, 1870.

* Hæmodynamik, 1850, Leipzig.

is put in communication with the canula towards the heart, the bulb enclosing the defibrinated blood being fastened in the peripheral end of the carotid. When the oil is pushed over by the stream of blood rushing into its bulb displacing the oil, the instrument is reversed 180° , and then the blood pushes the oil out of the bulb containing the defibrinated blood back to its original bulb. By this means a number of estimates can be made, the experiment being, however, one requiring considerable skill and very beautiful to witness. By means of a side-tube the pressure and the pulsations may be registered. I select from my note-book an experiment on a rabbit. Here the pressure and pulsations were registered on a continuous roll of paper by the mercurial kymographion, and the time the blood-current consumed in filling the oil bulb was registered by an electro-magnetic arrangement, also on the same paper below the heart recording its pressure and beats.

Experiment I.—Rabbit; curarized; artificial respiration kept up; diameter of the carotid one and a half millimetres.

Time in seconds.	Volume of blood in a second, in cc.	Mean rapidity in a second, in mm.	Pulse in 15 seconds.	Pressure.
0-19	0.36	216	64	102
19-39	0.35	205	83	122
39-75	0.19	111		

This experiment demonstrates that the rapidity in the carotid of a rabbit is very variable. The causes of this variation have been sought in changes in the temperature, but this idea is disproved because the changes in rapidity are too quick to correspond to the slower changes of temperature, and when the instrument was kept at a constant temperature by surrounding it with water at a fixed temperature, the same variation in rapidity still appeared. Neither is the variation of the pulse-rate of any import in the changes of rapidity, as they are independent of each other. The blood-pressure would certainly be thought to have an effect, for in hydrodynamics the pressure plays a considerable rôle; but on careful examination no fixed relation could be discovered between the two. Now the question arises, where is the seat of the variation? It must be either in the vaso-motor states of dilatation and contraction of the blood-vessels in different places creating or removing resistance, or the heart must throw out unequal amounts of blood during its systoles. That the heart

should eject unequal amounts of blood would be perfectly consistent with the play of the excito-motor ganglia against the inhibitory, for as one obtained temporarily a slight advantage over the others there would be an increase or decrease of the amount of blood ejected. The varying calibre of the arterioles must also be a very important factor, although it is one difficult to measure and then compare with the variation in rapidity of the movement of the blood in the arteries. The experiments on excised organs show that the walls of the blood-vessels have a considerable power in regulating the quantity of the blood and rapidity of the stream, as is shown by the curves with a plethysmograph. Here the central vaso-motor system is completely suspended, and all causes must be referred to the walls of the blood-vessels.

OPIUM-POISONING—ANTAGONISM OF BELLADONNA.

BY WM. I. WILSON,

Assistant-Surgeon, U.S.A.

A RECENT number of the *Times* contained a letter from Dr. Fothergill, on the antagonistic action of various medicines, which article prompts me to give my experience on the now well-recognized antagonistic action of belladonna and opium.

In 1866, when I was in private practice at Macon, Mo., cholera was very prevalent in St. Louis. Of course, in towns having railroad communication with St. Louis every case of diarrhœa was cholera. One evening I was called to see a case of "cholera." On arriving at the patient's house, I found him unconscious and covered over with a copious cold clammy perspiration. Another doctor who had been in previous attendance upon him was sitting by the bedside, administering to him every few minutes a teaspoonful of brandy-and-water. On inquiring into the history of the case, I found that the night before he had indulged in a "big feed" of oysters with the usual accompaniments. During the night he was attacked by violent vomiting and diarrhœa, which his relatives thought was cholera. The doctor when called gave him some morphine, and gave him too much. The pupils of his eyes were closely contracted, and this convinced me that morphine and not cholera was the cause

of his insensible condition. I suggested giving him some fluid extract of belladonna, which we administered to him in four-drop doses every ten minutes. After the third dose the pupils began to dilate, the body to get warm, and the perspiration to disappear. We gave him six doses, twenty-four drops in all, and he became sensible, had no relapse, and next day felt nearly well. His friends looked upon the case as a wonderful recovery from "cholera." The second case occurred when I was stationed at Fort Bayard, New Mexico, in 1873 or 1874. The hospital steward reported to me one day about 3 P.M. that a soldier named Breese had been brought to hospital and was very sick. I immediately went to see him, and found him almost unconscious, unable to speak, and covered over with a cold clammy perspiration. The pupils of the eyes were closely contracted, and the pulse very quick, weak, and hardly perceptible. After having him put to bed and warmly covered, with bottles of hot water placed around him, I gave him an emetic of sulphate of zinc. I made him swallow it by speaking loudly and sharply to him and holding his nose. After waiting for a quarter of an hour and the emetic not having acted, I attempted to use the stomach-pump, but he had just consciousness enough to resist its passage without my using unjustifiable force. I laid it aside and injected hypodermically one-fifth of a grain of sulphate of atropia. An hour afterwards his pulse had become quite full and strong, the skin dry, and the body warm. At 5 P.M. I again injected one-fifth of a grain of sulphate of atropia. His condition was about the same; the pupils had dilated, but the insensibility had increased. At 7 P.M. I requested Dr. Magruder, then a contract surgeon at Fort Bayard, to see him in company with me. We examined him closely, and he was so insensible that I held the candle to and burnt the point of his nose without his feeling any pain. Dr. Magruder said there was no use of doing anything more for him, as he would die before morning,—which was very much my own conviction. We left the hospital together, and I turned back and administered to him hypodermically another injection of atropine. About nine o'clock I went again to see him, looked at his pupils, and thought I detected a slight glimmer of consciousness. There certainly was a change in the expression

of his eyes. I on seeing this remarked to the steward, "I've got him," and gave him another injection of atropine, and left the hospital, saying I would return about 1 or 2 A.M., and that if any change for the worse occurred he should let me know. I did not wake till about 4 A.M., when I went over to the hospital and found him sitting up in bed, perfectly conscious and sensible. The man had been drinking pretty freely for a few days previous, and had had access to where some veterinary medicines were stored, among them tincture of opium, though he strongly denied having taken any. The appearance of the pupils and the result of the treatment convinced me that it was a case of opium-poisoning, and the result taught me that, no matter how seemingly desperate a case may appear, one should "never give up the ship."

Another case was that of a child whom I was called to see and found wildly delirious, the pupils widely dilated. On making inquiries as to what it had eaten, I got no satisfactory intelligence. I then gave it an emetic of sulphate of zinc, and when it acted a quantity of green pulp was discharged from the stomach. The parents then remembered that it had been playing with some "gymnison" weeds, or stramonium. I gave it several large doses of Dover's powder, which quieted the delirium and induced sleep. Next day the child was well, though the dilatation of the pupils continued for several days after.

These cases fully convinced me that belladonna or plants of the same order—the *Solanaceæ*—are antagonistic to the action of opium, or *vice versa*. Whatever action opium has on the brain, which causes contraction of the pupils, belladonna, which causes wide dilatation of the pupils, should have a contrary effect.

FORT CRAIG, NEW MEXICO, May 5, 1878.

THE NATURE OF HYDROPHOBIA.

BY REINHARD H. WEBER, M.D.

THERE have always been some in our profession who have denied the existence of hydrophobia as a *toxoneurosis*, asserting that this disease is in reality only a *traumatic tetanus*, as Prof. Maschka, in Prague, has done lately. There are others who defend even another opinion, claiming that hydrophobia in the human subject is only a simple neurosis, caused by anxiety,

or fear of becoming rabid, which is well styled lyssophobia. A case that to my mind conclusively settles all these questions may prove interesting to the profession generally:

On March 21, 1878, whilst visiting a patient, I was received by the lady of the house, who told me, without showing any alarm, that her eldest son John, aged 24 years, must have taken a cold, as he had a sore throat and could not swallow. I found a strong young man, without any fever, with a slight redness of his throat, but a profuse secretion of a tough saliva, which he was spitting out every few seconds. He complained about nothing but "rheumatism" in his shoulders and neck, and an inability to swallow any fluids. Upon my question, what he considered the cause of his illness, he replied unhesitatingly that it must be cold, the consequence of working in a cold and damp cellar several days before. Upon my ordering a glass of water he became visibly excited even before the water was brought into the room, and begged me repeatedly not to make him drink, as he knew he could not do so, and was afraid it would choke him. After the water had been handed to him, he touched his lips with the glass, but before any of the fluid could reach his mouth the characteristic tetanic spasms of the muscles of inspiration appeared. The patient's face showed all the signs of great terror and suffering, and the glass was taken away from him. I had seen enough. I now told the patient not to be alarmed, as there was no danger; and upon his asking me what name I gave to his disease, I told him "cerebral rheumatism." I then requested his mother to follow me up-stairs, as I was now going to see his father, sick with rheumatism. On the way I told her that I wished to see her alone, and there put the question to her, "Has your son been bitten by a dog within the last year?" The poor mother became pale, and actually staggered, so that I had to lead her to a chair, and exclaimed, "Oh, doctor, don't ask this question!" After collecting all her strength, she told me that her son had never been bitten by any dog, but that his pet dog had been sick for a whole week, and her son had nursed this sick dog, and put a muzzle on him, and while doing this some of the dog's saliva was running on her son's hand; but she is quite positive that her son was never bitten by the dog; nor does she know of any sore or excoriation on his hands. The dog they had shot that day just eight weeks ago, as they had lost all hope of his recovery, and wished to end his suffering. The family firmly believed all the time that the dog's disease could not have been hydrophobia, as he had been drinking water during his illness without difficulty. All this was confirmed by another son and a

daughter, both adults, and of considerable education. They all agreed in their testimony that the patient had never been bitten by the dog.

The true nature of his disease was carefully kept a secret from the patient, but the unfortunate sufferer died within forty-eight hours from the time the first symptoms of hydrophobia had shown themselves.

From the experience of this case, I believe we are entitled to draw the following conclusions. *First*, hydrophobia is not a traumatic tetanus, as there was nothing in this case that could be called a wound. *Secondly*, lyssophobia had nothing to do with this case, as the patient firmly believed that his dog had not had "rabies canina," and moreover as he had not been bitten.

There remains only one explanation, which perfectly agrees with all the facts observed in this case. This rests on the theory that hydrophobia is caused by a specific animal poison entering the system, which, after a long and variable period of incubation, reproduces itself either in the tissues, where inoculation took place, or in the blood, or, as appears most likely to me, in the *salivary glands*. In consequence a *toxoneurosis* is produced, which seems to affect first the cervical spinal cord, causing, by means of the spinal accessory and phrenic nerves, the tetanic spasms of the inspiratory muscles, and, advancing to the points of origin of the pneumogastric and glossopharyngeal nerves, causes death by general paralysis, through the involvement of the medulla oblongata.

The sad case related above will prove the more interesting to the profession as it is, so far as I know, the only case published where in the human subject infection took place without a bite by a rabid animal, the few cases excepted where inoculation took place by wounds during post-mortem examinations of animals that had died of this disease.

854 NORTH FIFTH ST., PHILA.

A LITTLE-KNOWN PROPERTY OF QUININE.—This, according to the *Gaz. Med. d'Italia*, is that of modifying the condition of suppurating wounds when applied locally. An injection of a solution of quinine (1:100 or 1:140) is useful in empyema, and also in blennorrhagia and fistulæ of different kinds. A quinine ointment exercises frequently a very decided healing effect upon chronic ulcers. x.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

SERVICE OF PROF. ASHHURST, MAY 4, 1878.

Reported by JOSEPH J. BISBE, M.D.

HÆMATURIA.

THE first case that I have to show you to-day, gentlemen, is one of a troublesome character as regards both diagnosis and treatment. It is a case of hæmaturia. By this is meant a flow of bloody urine, and this—which is, of course, only a symptom—may arise from several different conditions. Thus, the hæmaturia may be *renal*, resulting from either disease of the kidney, or from an injury, such as a blow producing contusion or laceration of that organ. It thus accompanies some contusions or other injuries of the spine. As an example of renal hæmaturia from disease, may be mentioned that which occurs as a sequel of scarlet fever, or in cases of Bright's disease, and that which results from renal calculus. Bloody urine may also depend upon an injury of the *ureters*, as in cases reported by Mr. Poland, of Guy's Hospital; or it may result from congestion or inflammation of the *bladder*, or from the presence of a calculus or of a morbid growth in that viscus, while it may likewise originate from injury or disease of the *prostate* or of the *urethra*.

Some information as to the source of the blood, in these cases, may be derived by examining the urine. In this instance it is of a florid color, lacking that characteristic "smoky" hue which is usually observed in cases of hæmaturia from diseased kidney, and which results from the prolonged contact and intimate admixture of the blood with the urine. In some cases of renal hæmaturia, however, the blood is found in the form of coagula, and we may then employ the test proposed by Mr. Hilton, of Guy's Hospital, which consists in floating out the clots in a basin of water, when their shape may betray their place of origin, as the pelvis of the kidney, the ureter, etc.

In these cases the urine should always be examined microscopically; and if the kidney be at fault, casts will often be discovered. This man's urine contains some leucocytes, epithelial cells, etc., but no casts, giving us additional reason for believing that his hæmaturia is not of renal origin. He gives no history of injury of

the *ureters*, and the question next to be settled is whether or not this bloody urine may come from the *urethra* or the *prostate*. When hæmaturia is the result of any *urethral* lesion, this can generally be traced to some injury, such as a blow on the perineum, the rough use of instruments, violent coitus, etc., and then the flow of blood precedes that of urine. If the patient, under these circumstances, be instructed to pass a part of the urine into one vessel, and the rest into another, it will be found that that passed first contains more blood, while that which follows is comparatively clear, the urethra having been washed out, as it were, in the process of micturition. In the present case the blood is pretty evenly diffused through the urine, and the flow is, if anything, rather increased at the termination of the process,—a circumstance which enables us to discard the notion of *urethral* hemorrhage, and limits us to the bladder and prostate as the possible sources of the bleeding. I have already examined this patient for stone without finding any, but will sound him again in your presence to-day; for, could we discover a calculus, it would be very easy to give him relief. This patient, I should have told you, has a stricture, for which he was operated upon some years ago in a neighboring city, and which I treated by dilatation when he first came into the hospital; though, having found that they increased the hemorrhage, I have not used instruments for some weeks.

In searching for stone, I prefer a slender sound, with quite a small curve: such an instrument can be manipulated more readily than a large one, and is more likely to find a small calculus.

When I introduce my finger into the rectum, the sound being now in the bladder, I find that the patient has piles, which are probably due to straining, and that there is a good deal of fulness between the rectum and the bladder, though not any positively defined tumor. The bladder is ribbed, but I find no stone, and less calculous incrustation than there was when I last examined the patient; I should add that he has passed a good deal of gravel, but not so much latterly as a few weeks ago. The age of this man almost precludes the possibility of the existence of ordinary prostatic hypertrophy, and I am, therefore, by a process of exclusion, led to believe that the source of hemorrhage is

probably a growth involving the anterior portion of the bladder, and that, as there is no glandular implication nor other evidence of cancer, this is most likely of a *villous* or *papillomatous* character.

It is said that in these cases shreds of tissue are sometimes found in the urine, which can be recognized by the microscope as having been detached from a villous tumor; but such an occurrence is rare, and there is certainly nothing of the kind in this case.

The treatment of hæmaturia varies according to its source. If it is the result of kidney disease, we must administer astringents which will pass off with the urine, such as gallic acid, and place the patient perfectly at rest. Internal treatment does not promise much in cases of vesical hæmaturia. If the blood coagulates in the bladder and causes retention of urine, it may be necessary to employ some form of suction apparatus, such as Clover's bottle for the removal of fragments after lithotomy, but, as a rule, the use of instruments is to be avoided as much as possible in these cases.

We have been giving this patient the infusion of matico, a remedy highly recommended by Sir Henry Thompson; and to-day I purpose making a local application to the bladder, employing that which is preferred by the same writer, viz., a solution of nitrate of silver gr. i to water f3iv.

The best method of injecting the bladder is to introduce a catheter (a flexible instrument is the best), and then make use of a gum bag, such as I show you here, the nozzle of which is fixed to the end of the catheter by means of a piece of gum-elastic tubing. The solution being placed in the bag, the liquid is slowly pressed into the bladder, and Thompson advises that the quantity injected should be introduced in four portions, three being allowed to escape again, and the fourth retained in the bladder. The injection is somewhat painful, as you see; but it is, I think, the mode of treatment that promises most advantage.

The ultimate prognosis in this case is, of course, not favorable, and all that we can hope to do is to palliate the patient's suffering.

FATTY TUMOR OF SCALP.

The next patient is one who has a small tumor of the scalp. The most common

form of growth met with in this locality is the sebaceous cyst, of which you have this winter seen a great many. The operation for the removal of these growths is very seldom attended with any danger,—erysipelas, which was formerly dreaded in these cases, and the fear of which gave Sir Astley Cooper so much anxiety when he removed a sebaceous cyst from the head of George the Fourth, being really seldom met with. The tumor should be removed by making a single incision through the scalp, laying bare the growth which can then usually be turned out with the handle of the knife. In this case the tumor proves to be not a cyst, but a fatty growth, which is of quite rare occurrence in this locality.

In these little operations on the scalp, no ligatures are usually required, because it is so easy to check the hemorrhage by means of pressure; but as this man is not to remain in the hospital, I think it safer to apply a ligature to the vessel which you see bleeding. I will also introduce a single wire suture, which will cause no irritation. As a dressing I apply a piece of lint spread with oxide of zinc ointment, with a firm compress and bandage.

WARTY GROWTH OF FOREHEAD.

The next patient presents a growth of a warty nature on the forehead, and tells me that I removed a similar one from the same situation last fall. I make free incisions on either side, so as to remove the whole growth, with the surrounding skin, and then close the wound with four wire sutures and strips of gauze painted over with collodion, completing the dressing by applying a compress and bandage.

NECROSIS AND CARIES OF TIBIA.

The next patient is a man suffering from necrosis of the tibia. About eight years ago he was under my care for an ulcer of the right leg, with a great deal of thickening about the bone; but at that time there was no evidence of necrosis, the bone being simply enlarged by chronic osteitis. Under the application of a blister, the ulcer healed, but returned a few months ago, and the patient has now necrosis of the outer surface of the tibia.

Within a short time a swelling has appeared on the other leg, which you will probably recognize as a node, and which in this case is, I believe, due to syphilis of the hereditary variety. This condition is a predisposing cause of the patient's bone

disease, though we can also trace a local cause, as the original ulcer followed upon an injury received some years ago.

I will make an incision in the direction of the long axis of the limb, push back the soft tissues with the handle of the knife, and expose the diseased structures. By the use of Esmarch's bandage this operation is rendered bloodless, as you see. A considerable part of this bone is in a state of caries, which bears the same relation to necrosis that ulceration of the soft tissues does to gangrene. I will now, with the cutting pliers, remove a portion of the bone, which will enable me more accurately to determine the extent of the disease. I find the inner part very soft and carious, while the external portion is very hard, and I further find some small sequestra in the interior. I have now thoroughly scraped the cavity with the osteotrite, and have, I think, got down to healthy bone on all sides. Notice how enormously this tibia is enlarged. Its width at this place is over two inches.

The cavity is to be washed out with a syringe and filled with oiled lint, and the wound then dressed with the same material, and covered with oiled silk, with an oakum compress and a bandage.

The Esmarch's tube should not be removed until the whole dressing has been completed.

ST. THOMAS'S HOSPITAL, LONDON.

TWO CASES OF OVARIOTOMY PERFORMED ANTISEPTICALLY.

Reported by JOHN B. ROBERTS, M.D.

SERVICE OF MR. CROFT, SURGEON TO THE HOSPITAL.

CASE I.—The patient, a woman of 42 years, and without children, had noticed abdominal pain and swelling for about one year. The tumor had apparently, from the history, increased with considerable rapidity during a recent period. The girth of the woman over the top of the abdomen was forty-two inches. The operation was performed in a private ward, and every precaution taken to have the instruments and dressings rendered perfectly antiseptic. The instruments were all placed in trays of carbolized water, and returned there when laid aside during any of the stages of the operation. The hands of the operator and assistants, and the abdomen of the patient, were washed in carbolic solutions, and the spray kept

going during the whole of the operation by means of a steam atomizer. After the abdomen had been covered with a rubber cloth, in which there was an elliptical opening at the seat of operation, and after the patient was fully influenced by the anæsthetic, an incision about eight inches in length was made in the middle line over the convexity of the tumor, extending downwards from a point above the umbilicus. The abdominal wall contained a great amount of fat, and was at least an inch in thickness. The fluid in the cyst was withdrawn, partly by means of a trocar, and partly by an incision made on the left side with a bistoury. It was viscid, and of a greenish-yellow color. Care was taken to prevent, as far as possible, the ingress of this liquid into the peritoneal sac. The peritoneum was exposed to the action of the atmosphere (although this was well impregnated by the spray) as little as possible by keeping the edges of the wound together whenever there was a cessation of the necessary operative manipulations, and by placing at the same time a large, flat, carbolized sponge upon the opening. The strong adhesions of the cyst were torn, and the sac drawn out through the abdominal incision. Large needles, carrying carbolized catgut ligatures, which were threaded double, were then thrust through the pedicle; and, finally, these were tied tightly, in order to obviate any possible bleeding. The bleeding points remaining where the adhesions had been detached were controlled by ligatures. A small cyst, which was independent of the original one, and which was the size of a walnut, was excised also, lest it should increase and necessitate a farther operation at a later period. Sutures were then used to approximate the incision in the belly wall, which was closed tightly, without any resort to drainage-tubes. The ligatures which secured the pedicle of course rendered a clamp unnecessary. The dressing, of Lister's protective carbolized gauze Mackintosh cloth, was then adjusted. The abdomen was also covered by masses of cotton, and a broad bandage was used to encircle the patient's body. The cyst removed was quite large, and the adhesions to the surrounding parts very firm and old. The utmost care was taken during the operation to keep the seat of manipulation well enveloped in the carbolized spray,

and to use no instruments that had not been lying in the trays of antiseptic solution.

Five days subsequent to the operation it was reported that the wound had been dressed once when there was no suppuration from the incision. The temperature of the patient had shown no elevation above normal that was worth mentioning.

Nine days have elapsed since the cyst was removed, and the patient is still progressing favorably, though the wound gaped after the sutures were removed, on account of the patient's coughing.

SERVICE OF MR. MACCORMAC, SURGEON TO THE HOSPITAL.

Case II.—In this case the woman was aged 56 years. The tumor was not so large as in the former case, and presented fewer obstacles during the operation. A private ward was used, and instead of the carbolic spray the operator preferred an antiseptic solution of thymol, which was placed in the boiler of the atomizer as well as in the tank. This was so arranged because the solution of thymol used was of the strength of one part in a thousand of water, which is said to be the strongest solution that can be made with cold water. A certain amount of additional thymol was placed in the solution in order to insure its being saturated. The steam atomizer was kept in operation for a couple of hours previous to the time of operation, in order that the air of the room might be well impregnated with the antiseptic. The instruments and hands of the surgeon were washed in carbolic water, as in the previous case.

An incision of some six inches was made in the median line, beginning two inches below the umbilicus. The tumor was found to have contracted no adhesions. It was multilocular, and contained in places hard masses. The fluid was drawn off to a great extent when the sac was extruded through the wound. Catgut sutures were employed to secure the pedicle, as in the former case, and great attention was paid to keeping the peritoneum exposed as little as possible by using flat sponges, and by holding the edges of the wound together, except when absolutely necessary to introduce the hands or the instruments. There were no adhesions, and consequently little or no hemorrhage. The sutures were all placed in position, and then tied, after which the wound was dressed similarly to Mr. Croft's case, except that the gauze used was impregnated

with thymol instead of with carbolic acid. Thymol has not the irritating local effect of carbolic acid.

A few days later the dressing was changed, without showing evidence of suppuration. After a period of five days the patient was doing well, and had had no marked inflammatory fever. The wound is now (ninth day) healed, and the patient practically over the critical period. She has a temperature about normal, and is really in better condition than before the operation.

TRANSLATIONS.

OPIATES IN CEREBRAL ANÆMIA AND DISEASES OF THE HEART.—Dr. Huchard (*La France Méd.*, 1878, p. 164; from *Four. de Thérap.*) speaks of the good results obtained by the administration of opium to persons suffering from insufficiency or narrowing of the aortic valves. He gives numerous instances in which the happy effect of this remedy has been manifested. In the course of certain affections of the heart, where the attacks of suffocation and of dyspnoea have acquired an extreme intensity, injections of morphia are of great service. Dr. Huchard's article is valuable as popularizing the use of opium in diseases of the heart, and also in putting forth a theory to explain the good effects observed in its use. Opium has long been used in these diseases, but the value of Dr. Huchard's communication lies in the fact that it shows more precisely the indications and counter-indications.

It is known that opium, given in the dose of one to two centigrammes (gr. $\frac{1}{16}$ – $\frac{1}{8}$), produces slight excitement of the circulation, animation of mind, and increase of muscular force; if the dose is pushed to five or ten centigrammes, depression of the circulation, with a tendency to sleep, is brought about. M. Gubler, in his *Com-mentaires*, urges the utility of opium in want of stimulation of the nervous centres by an impoverished or altered blood; and Dr. Vibert suggested a year or so ago that injections of morphia should be practised previously to the operation of thoracotomy, and even in every operation where there might be danger of syncope, with a view to prevent its occurrence. It is for the same reason—to utilize the "hyper-hemiant" properties of opium on the ner-

vous centres—that Dr. Huchard has employed this drug. In cases of narrowing or insufficiency of the aortic orifice, where patients present the symptoms of asystole, with suffocation, dyspnoea, cold sweats, paleness of the face, algor of the extremities, etc., Dr. H. has seen all these symptoms diminish after the hypodermic injection of one centigramme ($\frac{1}{16}$ gr.) of morphia. M. Huchard generalizes by saying that if opium is useful in aortic affections accompanied by vertigo, tinnitus aurium, tendency to deafness, cephalalgia, and occasionally dilatation of the pupil, it is because it overcomes the cerebral ischæmia. For this reason opium may be used as a tonic in many anæmic conditions, as phthisis. x.

SARCOMA OF THE PALM OF THE HAND.—At a recent meeting of the Société de Chirurgie (*La France Méd.*, 1878, p. 253), M. Tillaux read a communication from Dr. Gross, of Nancy, giving an account of a peculiar growth which he had recently removed from the palm of the hand. Tumors of the palm are rare. Lipomata, enchondromata, and little cysts developed along the course of the synovial bursæ are sometimes found, but sarcomata, particularly those containing, as in the present case, giant cells, are in the highest degree uncommon in this locality, and have usually been found only in connection with bone. Here the tumor was developed in the subcutaneous cellular-adipose tissue. The patient, a girl of 17, showed a tumor at the root of the right index finger, occupying the place of the adipose cushion usually situated there; it extended thence to the thenar eminence and the palm of the hand, forming a lower subcutaneous lobe and an upper lobe somewhat flattened by the aponeurosis. The tumor was indolent, movable, and did not adhere to the deeper tissues. M. Gross hesitated in his diagnosis between lipoma and sarcoma. Microscopic examination of a bit of the tumor showed the presence of the latter. The tumor was removed by enucleation. Four or five days later an isolated process was observed in the wound, which gave rise to fears of a return of the disease. This was destroyed by caustic, and subsequently returned twice, finally disappearing entirely under the use of Canquoin's paste.

In the discussion which followed, M. Verneuil said he had long warned his pupils against the danger run in enucle-

ating so-called "benign" tumors. Frequently the examination of a rounded, encysted fibro-plastic tumor would show a sort of serous sac about the periphery, a very loose cellular tissue. Enucleation is easily effected, but on examination of the cyst which surrounds the tumor it is found to be composed entirely of fibro-plastic elements. In these cases local relapses of the most stubborn character are to be feared. M. Verneuil was accustomed in such cases, as in fibromata of the mamma, so often mistaken for adenomata, to remove the whole cellular "atmosphere" about the tumor, going into the healthy tissue beyond the suspected zone. M. Despres said he thought the growth in M. Gross's case was connected with the bone. In reply to M. Verneuil, M. Tillaux said that in a structure like the palm of the hand, one could not go far beyond the limit of the tumor without involving important structures. He was positive that the tumor was not connected with the bone. x.

POISONING BY DIGITALIS—RECOVERY.—In *La France Méd.* of April 13, Dr. Béringuier narrates the following case, which is of interest because it is seldom that the ingestion of so large an amount of digitalis has not been followed by death:

A woman 28 years of age took fourteen milligrammes of digitaline in one day, and sixty the day following. She lost consciousness almost immediately after the ingestion of the second amount, and was brought to the hospital. Her expression at this time was much changed; her face was pale and covered with sweat; she did not seem to hear what was going on around her, and her strength was exhausted so that she was supported on either side by persons who assisted her to walk into the ward. She gave utterance to cries of agony on account of violent pains in the head and stomach. On her arrival in the ward she began to vomit, straining violently, and throwing up an abundance of bilious matter. She complained of violent pains in the head, with tinnitus aurium. From time to time her vision seemed obscured, at other times she suffered from vertigo. The pupils were equal and slightly dilated. Pulse feeble (forty beats in the minute), but regular. A somewhat harsh apex systolic murmur. An emetic was prescribed, and also a pint of infusion of coffee. During the following evening and night,

the patient suffered from attacks of vomiting, with violent pain. A large quantity of fluid was rejected. She did not sleep at all. The feet and hands were pale and were the seat of tickling crawling sensations. Headache and disturbance of vision and hearing continued, the pulse was the same, the epigastrium was extremely tender, and the patient complained of atrocious burning in the stomach. Only a few drops of urine had been passed since noon.

The next day the patient's condition was the same, or worse. She was weaker, vomiting was constant, there was tenderness along the spinal column. The hands and feet were cold; formication continued in all the limbs. The patient had just begun to menstruate when she took the digitaline; the flow stopped at once. Headache, vertigo, tinnitus aurium, disturbance of vision, continued through the day. Temperature in the axilla, 98.5° F. She passed one hundred and fifty to two hundred grammes of urine. This threw down an abundant deposit of urates, but contained no sugar and no albumen. In the evening she felt better, and all the symptoms had diminished. On the third day the patient was still very feeble; the vomiting continued; there was some diarrhœa. Pulse fifty, temperature 97.1° F. She took some coffee, and had a hypodermic injection of morphia. In the evening decidedly better, and slept. She still had a little diarrhœa, and her urine continued scanty for some days. Seven days after taking the digitaline the pulse remained at forty-four; and it was not until the ninth day that it recovered its usual force and fullness (sixty pulsations per minute). The patient's menstrual discharge returned again with her recovery. In commenting upon the case, Dr. Béringuier attributes the patient's recovery to her having vomited the very large dose which she had taken. Contrary to Legroux's experience, no elevation of temperature took place. As is usual in digitalis-poisoning, suppression of the urine to a high degree was observed. It should be noted that the patient's pupils were always perfectly contractile and only moderately dilated, and that pain along the vertebral column, a symptom noted by Tardieu, but not often referred to by writers, was present to a marked degree. X.

POISONING BY ATROPIA TREATED BY ALCOHOL.—Famberlini (*La France Méd.*, 1878, p. 223; from *Gaz. Med. Ital.*) gives

the case of a woman recently operated upon for cataract, in whose eye solution of atropia 1:400 was instilled for prolapse of the iris. After eight days of this treatment the patient one day became suddenly very pale, her countenance altered, she had a chill, pharyngeal contraction, salivation, delirium, with the pupil of the *opposite* side excessively dilated. Famberlini immediately administered two hundred and fifty grammes (8 oz.) of alcohol. A little later the temperature, which had been 98° F., rose to 100° F., and all the alarming symptoms disappeared. In other cases of poisoning following the instillation of a few drops of atropia solution, the result has been attributed to some pre-existing renal lesion which did not allow the elimination of the poison. X.

AFTER-TREATMENT OF TRACHEOTOMY CASES.—Vogt (*Cbl. f. Chir.*, 1878, p. 158; from *Deutsche Med. Wochens.*), proceeding from the fact that with the present methods of treating tracheal croup most children perish, even after operation, from continued formation of false membrane, suggests glycerin as a means of hindering the formation of the membrane. It is known that when this substance is applied to the mucous membrane a profuse watery serous secretion is excited; and this is relied upon by Vogt to remove or prevent the adhesion of the false membrane. In the case of a little six-year-old girl treated in this way a cure resulted. Glycerin mixed with an equal quantity of water was inhaled, by means of an inhalation apparatus connected with the tracheal tube, every half-hour. Vogt has also used this treatment in recent cases of croup, where tracheotomy has been thought unnecessary or unadvisable. Disinfection of the original patch in the pharynx by means of chlorine- or bromine-water preceded the use of inhalation. X.

BORACIC ACID IN SKIN DISEASES.—Neumann (*Centralbl. f. Chir.*, No. 8, 1878) has employed boracic acid, sometimes alone, sometimes in connection with oil of cloves, in the fluid form and in ointments. In pityriasis versicolor and tinea tonsurans, alcoholic solutions, 10:300 with 2.50 ol. caryophylli, and 20:300 with 3.0 ol. caryophylli, have been used. In pityriasis rubra and all varieties of eczema the acid has been employed in the form of ointments of 10:50. Neumann considers the remedy a valuable one. X.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JUNE 8, 1878.

EDITORIAL.

THE JOHNS HOPKINS HOSPITAL.

IN a recent editorial we had something to say concerning the present state of the Johns Hopkins trust. Because it is a trust for all humanity, we feel justified in returning to it. If the trust were for Baltimore and Maryland alone, that would be much; if for education and for the medical profession everywhere, that would be more. But, most of all, it is a charity that is world-wide. It was intended not merely to honor Baltimore, but to furnish a model for such charities everywhere, and to train a class of helpers for all society.

To illustrate this we need only to turn to three clauses in that remarkable will, part of which Mr. Hopkins had hoped to see executed in his lifetime. He directs his trustees "to obtain the advice and assistance of those at home and abroad who have achieved the greatest success in the construction and management of hospitals." But it was not only for a hospital. "In all arrangements in relation to this hospital, you will bear constantly in mind that it is my wish and purpose that the institution shall ultimately form a part of the medical school of that university for which I have made ample provision by my will." When he comes to speak of the training-school for female nurses in connection with the hospital, he puts still more definitely the outreach of his design, which is not only "to secure the services of women competent to care for the sick in the hospital wards," but to "enable you to benefit the whole community by supplying it with a class of trained and experienced nurses."

In the university, in the hospital, in the medical school, in the nurse school, in the

orphanage, he attempts not only a charity for inmates or an education for attendants, but a great normal school for all the world,—a model and an influence which shall permeate and penetrate wherever men are to be cared for or orphanage prevented or relieved. Well does Mr. King, in his letter to the first essayists, call it "a munificent foundation." The trustees seem to have measured the scope and imbibed the spirit of the bequest, and hence is the history of their administration worthy the space we give it.

The first essays on hospital construction and organization secured by the trustees from representative men of the medical profession were published, as they say, for the "whole public." These drew forth many reviews which aided in a fair expression of opinions on all matters relating to hospital construction, and to the choice of Surgeon Billings of the army to study in detail the various plans proposed and to submit to the trustees his views as to the buildings to be erected. Dr. Billings himself brought to the subject a knowledge second to that of no living American, and yet an openness to conviction which led him to study and examine the subject as a an expert, seeking from every direction the best information still to be had. About a year after the publication of the book on Hospital Construction and Organization, and after he and the architect had fully considered all suggestions made, Circular No. 1, July, 1876, in a few pages further discussed plans which had been submitted.

It had then been settled that the hospital should have a large open central space, and that so far as any memorial or ornamental effect should be elaborated it would be confined to the administration building; that the structure should be of brick,—all south ends of wards fully exposed to air and light and clear of adjacent buildings; that connections should be made by corridors with level floors above the

ground surface, and their tops even with the floor levels of the wards.

In September, 1876, a second report was made, with sketch plans of the suggested hospital. As these plans have been somewhat extensively known, they need no long discussion here. Suffice it to say that they presented a large idea of a perfected hospital with the most approved appliances. Not only the wards and their connections, but the amphitheatres, the operating and dissecting rooms, the pathological laboratory, the microscope room, a room for photomicrography, a photographers' room, with balcony for scientific illustration, a museum, etc., were duly provided for.

The subjects of heating and ventilation were presented and discussed. The plans submitted were drawn on the supposition that the hospital is to be heated by hot water, at a temperature of less than 200° Fahr., circulating in coils of cast-iron pipe placed in the basement, beneath the rooms to be warmed. Over the surfaces of these coils the fresh air passes before it enters the rooms, thus forming what is known as the method of heating by indirect radiation. The water is heated in the kitchen building, and the aspirating chimney into which the flues enter has at its base the foul-air duct which receives the foul air direct from the wards, and thus aspirates their air. The advantages and disadvantages of the plan of ventilation are discussed. If the plan of a single aspirating shaft is not adopted, the value of natural and ridge ventilation and of central fire-places is presented; also the application of the fan to either method, both for aspiration and for impulsion, is suggested. The paper ends with the statement that these remarks are intended to indicate points which have not reached decision, and which are open for study and inquiry.

A few days after, with a full supply of well-executed plans, and with his papers of details, Dr. Billings started on a tour of inspection across the Atlantic. An ex-

tended and laborious examination was made not only of the hospitals of Great Britain and the Continent, but also of the systems of heating and ventilating which had been tried in the leading public buildings of London, Paris, Berlin, Vienna, etc. We have means of knowing from an outside source some of the scientific incidents of this journey, enough to show that the search for truth was earnest and skilled. Approvals and criticisms were listened to and noted with great exactness, and observations made with the most technic care. Hospitals heated so as to be cold and ventilated so that the draught was downward, and ducts and pipes unknown to the foremen, were among the incidents. On the other hand, here and there a master-spirit was found and important facts were elicited. We know a looker-on who enjoyed the scientific catechisms as much as some now relish the Shorter Catechism of Westminster.

Extended thought, study, and observation led to the suggestions which are made in a circular of January, 1877. This third report gives a careful review of the various suggestions which had been received, and either disposes of them by facts and arguments, or shows wherein they are valuable. Much attention is again given to the discussion of the system of heating and ventilation. The great trouble abroad as well as here is to secure reliable data; yet the opinions and experience of some skilled superintendents were found valuable. In ventilation, systems of aspiration, such as the usual chimneys, were mostly preferred to the fan or other methods of impulsion. Few, however, advised for such a hospital as this a single large aspirating chimney, as had been recommended by the first architect. The fan system is used to advantage at the Grand Opera House in Vienna, but, though found in several other places, seemed unwieldy and not very available. It was quite evident that the fan system has not been well tested abroad.

The weight of authority seemed to be in favor both of the separate heating and ventilation of each ward building. In the circular, Dr. Billings recommends that "this hospital shall be heated with hot-water coils placed in the basements of the several buildings, and supplied from boilers placed in the basement of the kitchen building." For the ventilation of each ward, in addition to valved ridge openings, an aspirating chimney which shall rise thirty feet above the level of the ward ceiling, and into which open longitudinal ducts running beneath the centre of the floors of the ward, is advised. Two double fire-places in the centre of the ward will give similar aspiration, but not much heat. A steam coil or a fire at the base is suggested as securing the aspiration where such chimneys are used for each ward. As fine organic dust rather than gas is the danger of a hospital ward during cold weather, both the distribution of air and its removal are best secured by taking the outgoing air nearly from the floor-level.

Dr. Billings, after this careful review, advises the adoption of the plans for the hospital chiefly as presented in the former sketches, with such slight modifications as will hereafter appear.

Paper No. 4, dated December 31, 1877, by the building committee of the Johns Hopkins Hospital, says, "After careful examination of the sketch-plans submitted with the report of Dr. J. S. Billings, dated September 20, 1876, and of the various criticisms and comments upon them, made by those most interested in and familiar with the subject of hospital construction, both in the United States and abroad, fresh plans were prepared, including such modifications as seemed desirable." These were approved April 17, 1877. They at once proceeded to a preparation of the ground for building. This very properly included a study of its geology, its topography, and its relations to the city. As Baltimore has no sewerage properly so

called, and as the facilities for conducting the drainage of this ground to a near point for final disposal are not good, the drainage became of the first import. Careful borings were had of the grounds to the depth of over sixty feet. The soil was found composed mostly of alternate layers of sand and stiff clays, with two springs and several marshy places on the ground through which the soakage from the various strata came. The main drainage through an elaborate system of pipe is conducted to where a sixteen-inch main drain enters a large silt trap, the horizontal section of which has the shape of a quarter of a circle, the radii being formed by the heavy walls built to act as foundations for walls to be hereafter constructed. The bottom of the silt trap is at the level of 75' 9" above tide, and the sixteen-inch pipe enters it three feet nine inches above the level, that is, 79' 6" above mean tide. This drainage is, with one exception, the entire drainage of the hospital, but has nothing to do with the sewerage or water-closet system. The one exception is at a point where there is a spring so far distant as to require a very long drain, and so a well five feet in diameter was sunk fifty-five feet from the spring to the depth of fifty-eight feet, where a bed of coarse gravel was struck. The water from the spring and from some other small veins was turned into this well, and through it rapidly conveyed away. After the heaviest rain the water in the gravel pit has not risen over eleven feet, and in three days then subsided to five feet. As at the depth of from sixty to eighty feet this gravel bed underlies the whole hospital, much of the sewage of the hospital might, if needful, be disposed of in this way. With care as to fatty matters, and with rainfalls kept out by the drains, it would be a long time before such wells would fill up and become useless. (See report.) Details are then stated as to the usual foundations which are completed.

Paper No. 5, of February, 1878, is by

Dr. Billings, and gives a detailed plan for the heating and ventilation of the hospital. The whole is a thorough discussion and a valuable contribution to the general literature of the subject. After referring to methods of flushing the wards with fresh air at times, and to organic impurities as more contaminating than carbonic acid, he emphasizes the fact that "carbonic acid is equally diffused throughout the room, does not collect near the floor, and the fact of its specific gravity being greater than that of air at the same temperature has nothing whatever to do with questions of *ventilation in a hospital*."

The standards of purity and quantity of fresh air required are then discussed. The standard of De Chaumont is approved, viz., that the purity be such that a person entering from the fresh outer air shall find no perceptible odor; and this is found to be when the amount of carbonic acid does not exceed six parts in one thousand, which means three thousand cubic feet of fresh air must be introduced and distributed each hour for each man. The effect of moisture on air is ably discussed, as well as the views of De Chaumont and Robert Briggs's pamphlet, which we have read with great interest. We think that the conclusion is correct that instead of 60° we must have here 70° as the usual temperature; but whether this is owing to the greater dryness of our atmosphere is not fully determined. As to the supply and distribution of air, three points are made. 1st. The velocity of the incoming air should not exceed two feet per second. 2d. The openings for ingress of air should be numerous and scattered in order to secure rapid distribution. 3d. It should be remembered that air has a strong tendency to adhere to surfaces across which it passes. Registers in the walls are preferred for hospitals. Morin insists that registers should be near the ceiling, and Huxley claims that the inlet of the warm air should be from above. Warm air, however, introduced anywhere

on the side walls tends by this surface adhesion to run up to the ceiling, and so travel down as if introduced above, unless the opening is too near the floor. In all cases there should be some way of admitting to the heated air some cold air which has not passed over the heating surfaces, and so regulating temperature.

The chief points as to foul-air registers are these. Their area should about equal that of the fresh-air openings. They should not, when it can be avoided, be in the external walls. The openings should be free spaces, and thus avoid that friction of surfaces which impedes if there is too much ornamental work. An ordinary open fireplace and chimney, even without a fire in it, is the best of all foul-air systems in a room heated by the introduction of warm air or indirect radiation. In one-story wards, ridge ventilation and an arched ceiling are advised. The system in the lowest ward should be an iron foul-air box in the centre of the floor, just below it, to which foul-air pipes come, and which connects with an aspirating chimney. The water-closets, sinks, etc., are arranged around special ventilating shafts heated by high-pressure steam coils.

As connected with the supply and distribution of air, the subject of heating is fully treated. Shall dependence be placed on air entering the rooms after having passed over heated surfaces outside, or shall the cool air be heated in the room, or shall both methods be combined? We might also inquire whether the floors and walls could not be so warmed by apparatus outside that but little heat would need to be brought into or produced in the ward. One objection to heat from outside or by indirect radiation alone is that the head will be kept warmer than the feet. A combination of the two systems is advocated.

Preference is given to hot water over steam, although both are admitted to be equally applicable to many rooms. We have examined the hot-water apparatus in

Barnes Hospital, and it certainly works well and with reasonable economy. The wards have registers both near the floor and near the ceiling, but in practice almost entire dependence is placed upon the former. The description of the heating and ventilating of this hospital, as given by Dr. Huntington, is a valuable part of Dr. Billings's paper. Many experiments have been conducted in the Barnes Hospital, as to the movements of air, the direction of currents, the variations of heat and moisture, the quality of the foul air, and the perfection of its removal. Thus Dr. Billings and Dr. Huntington are able to give us some reliable statistics, although it must be admitted that the hospital is one almost as easily regulated as a private dwelling. It affords, however, an excellent opportunity to compare, as has been done, (*a*) ventilation by perfilation or the natural method, (*b*) ventilation by aspiration, (*c*) by propulsion, and (*d*) by a combination of two or of all these methods. The aspirating chimneys are not as huge as some to be seen abroad, but work well; and as for the fan, it is in construction far ahead, we believe, of anything to be found in Europe. With the different methods at command, and, most of all, an observing superintendent to work them, we confess that we are far less disturbed than before with what are called the unsolved problems of ventilation. The records of observations as to weather, temperature, humidity, velocity of currents, movements in fresh- and foul-air ducts, amounts of carbonic acid gas and of organic impurities, etc., in the wards, the amount of coal consumed, etc., afford us statistics of the greatest value, if followed up with similar trials elsewhere. Dr. Cowles's observations in the Boston City Hospital, and those of Drs. Wood and Mew, are of like value. Here again comes in the utility which the Johns Hopkins Hospital seeks to demonstrate for the world at large. It proposes not only to apply the best known methods, but to

try different methods in different buildings, and to seek by observation and comparison to get such results as will aid science and experience everywhere. "It will be," says Dr. Billings, "a sort of laboratory of heating and ventilation." His partiality for the propelling fan is quite evident, but not to entire dependence thereupon. It is also very available in summer, and in such a climate as Baltimore it will be needed for this summer ventilation. The plan of ducts is fully as important as the kind of fan. Physics has furnished us with laws so that now we are quite able to calculate the size of pipe, the curves or angles, and the friction of surfaces.

The administration building will be heated by hot water, low temperature. The dispensary, amphitheatre, and bath-houses will be heated by steam, low pressure. The laundry and pathological building will each have their own separate heating apparatus.

The ventilation of each building will be effected under ordinary circumstances by open fire-places, aspirating chimneys, or ridge ventilators, and the ventilation of each building will be entirely separate from all the others. For accelerating ventilation, high-pressure steam coils are to be used in the aspirating shafts or boxes, and a fan ten feet in diameter, with suitable ducts, is to be provided. The pay wards will be heated partly by direct and partly by indirect radiation, fire-places being relied on for the former. The common wards have their apparatus for heating and ventilating in the basement. The coils for the heated air stand between each pair of windows, and the heating is as before described. Fresh cool air can be admitted either through or alongside of the heating coil.

Direct radiation in the wards is proposed by double open fire-places in the centre of the ward; and it may be worth while to try in these fire-places the substitution of a steam coil with reflectors for the open fire. The foul-air duct runs longitudinally be-

neath the floor of the ward, and receives the air from lateral ducts opening at the foot of each bed. These can be reached from the basement or thoroughly cleansed throughout. Two or three different plans or combinations and sketches of plans are given.

The Nurse Home will mainly depend on heating coils placed in the basement. In the centre of the building is a brick shaft of six feet interior diameter, which acts as a ventilator and secures an aspirator which can be used according to indications.

We have been thus minute in the notice of this hospital just because it has such universality of interests. It is local only that it may be cosmopolitan. We confess to interest in the thing itself, but even more in its "Normal" relations as a teacher and a model, to be studied, improved, praised, found fault with, criticised according to the lights and the shades which real scientific facts, close observation, and reliable aggregates of experience may furnish. It is because it is conceived and executed in this spirit that we shall ever watch it with the highest interest. It is a compliment to the medical profession that Dr. Billings is allowed not only to guide as to its general hygiene, but to have all the influence of a medical and sanitary authority in questions of engineering, architecture, etc. Although these are finally committed to experts in these professions, it is only after the strictest and most decorous consideration of all sanitary facts and bearings. We congratulate the profession even more than we do the individuals, that, whatever may be the success of this uprising structure, it will be the first university indication of acknowledged allegiance to sanitary and medical science; an organized attempt to apply or test the best ascertained or probable indications of science to the laws of structure and arrangement. The architect, the engineer, and the medical sanitarian shake hands in the presence of a favoring board of trustees, and an interested medi-

cal, charitable, and university constituency are watching with great interest the results. We congratulate all concerned on the mode of investigation and the plan of execution thus far, and hope to realize our hopes for the future.

CORRESPONDENCE.

LONDON LETTER.

IT may not be familiar to all your readers that amidst the other mappings-out of Old England, it is divided into a series of areas, over each of which presides a medical man, known as the medical officer of health for such and such a district. This officer is possessed of very considerable powers, has a fairly respectable income, a good social position, and a staff of inferiors under him. His power is considerable, and his office an important one. For instance, if an outbreak of typhoid fever or diphtheria occur in his district it is reported to him, and he at once appears on the scene, investigates the causes of the outbreak, if possible finds them and does away with them if they are remediable, and places the affected area under the most favorable circumstances for the amendment of the sick and the protection of the unaffected around them. It is needless to say that very often the measures he orders are unacceptable to the people whom he wishes to serve, and that the ingratitude said to belong largely to humanity procures for him the reputation of a meddlesome fellow, who does not indeed not mind his own business, but who makes a great deal his business which does not properly belong to him. Then, again, somebody does something or makes something pecuniarily profitable but obnoxious or deleterious to his neighbors. Here again the medical officer of health is invoked to see that the nuisance is removed. The Anglo-Saxon race is famous for its fixity of purpose and the determination it exhibits in the pursuit of its aims, and persons so interfered with bear no good will to this sanitary guardian. In contemplation of such consequences of the discharge of duty, his office is settled by the local government board, and his livelihood and means are not absolutely at the control of the local men in office, who would in all probability revenge upon him the wrongs and injuries of their friends whose vested interests he may in the course of his duty have injured. He is indeed a gentleman filling a confessedly difficult post, and he is fairly paid, and is as well supported by his board of health as may be expected from humanity in its present state of development and enlightenment. But every now and again it becomes his duty to close some time-honored well at which the forefathers of the villagers have drunk with

asserted benefit for centuries, and to discover impurities, nitrites, etc., in a water reputed for ages as of superior excellence and of miraculous qualities, and then he is the subject of a good deal of odium and abuse, and his qualifications for his office are usually freely criticised. But the strangest offence that such an officer could commit came under my notice lately in the suburbs of Manchester. I met at dinner the medical officer of health of an adjoining district, and also a member of the board of health of the district in which our host's dwelling was placed. It soon became apparent that there was an old standing feud established in this neighborhood, based on the small death-rate of the medical officer's district as compared to that of the neighboring areas, over one of which this other gentleman was one of the reigning powers. They speedily came into collision on the disputed topic, and it was very amusing to hear the doctor assert how he had kept down, as far as possible, the numbers of the population in his area, so as to make the death-rate as large as possible, and, do all he could, he could not reach a higher death-rate than 6.5 per thousand,—a rate about one-third of the usual rate over all England. Instead of a general rush to an area so favorable to health, and consequently to longevity, as one might expect, this low death-rate had excited the suspicions and not the jealousy of the neighboring districts. Why they should be keeping up the ordinary and normal death-rate while this isolated area was so free from death, was a problem admitting of only two solutions,—viz., either that it was a fact, in which case the medical officer of health was entitled to the greatest possible credit, or else there was some trickery practised. Instead of generously crediting the doctor with unusual zeal and unparalleled success in his efforts, it appears they felt inclined to suspect him. So they sent detective police officers into his district to see if any deaths were concealed from the authorities and so were not registered. It appears, however, that the doctor came out of this very searching crucial test with flying colors, and that the neighboring boards are striving to conceal their chagrin at their ill success in not finding some other explanation of a death-rate of 6.5 per thousand than the obvious one of a small mortality. The disputants seemed to agree fairly well in their disagreement, and remained quite friendly over this inexplicable affair; but how the doctor made out that he had kept his population down (without killing them), and how he had manipulated his death-rate in order to bring it up to 6.5, I am not now quite clear; indeed, at the time it seemed something mysterious. But to have detective officers sent to hunt up unreported and unregistered deaths as the reward of strict attention to duty and of an unwonted success seemed to me somewhat hard. It seemed clear, however, that if the

death-rate of this isolated district rebelliously remained at such an insufferably low position, it would not be long before the experiment would be tried of getting in another officer of health at the first opportunity that offers itself, and thus seeing if the secret cannot be discovered.

At the annual conversazione of the Medical Society the oration was delivered by Dr. Alfred Carpenter, on "Alcoholic Drinks, as Diet, as Medicines, and as Poisons." He eloquently defended the bulk of the profession from the charge brought against them of being the cause of the prevalent taste for alcohol. He admitted that unfortunately some routine practitioners were given to injudicious recommendation of them, and that consequently the whole profession had been freely blamed for what was the fault of but a small section of it. As to the statement that animals did not take alcohol, he said neither did they cook their food nor use artificial coverings, though they manifested no objection to either cooked food or coverings when provided for them by man. He then considered the question of the probability of alcohol being changed into glycol, one of the saccharine group, in the body, and so being transformed into force in the human economy under certain circumstances. We were not to assume that because a large dose did harm, therefore a little one was injurious. Lime and salt are even necessities of life, and yet they were injurious in large doses. A toleration of alcohol was created by the use of it. As to its use in medicine, he thought that its administration to the weak and debilitated, and especially those who had suffered from hemorrhage or long-continued suffering, might occasionally lead to the formation of embolism, from its effects upon the blood. He thought the growing custom of diluting wines with saline waters a beneficial and desirable one. It was also well to take alcohol with food, and not alone. If two men take the same quantity of liquor in the course of a month, the one taking it with food, the other on an empty stomach, the latter becomes rapidly saturated, the former escapes without serious damage.

"If stimulants are taken with other food when great exertions are being made, and when there is a call upon the stomach for fuel to supply waste of tissues, there is sufficient evidence to show that they enable the machine to obey that call with better effect than if stimulants were withheld; but if the effort is continued from day to day beyond the ordinary capacity of the machine, and that effort is sustained by more fuel in the shape of stimulant, the human machine, like all others, must wear out sooner than it would otherwise do." He continued, "We may fairly assume that there are occasions in which stimulants may be useful, and even necessary; but as habitual drinks they must be hurtful unless more diluted than we are accustomed to take

them, and it appears that it is our duty as medical advisers to state this fact forcibly to those consulting us, and to advise their non-use in daily life. As medicines, he said, alcoholic drinks, sufficiently diluted, promote the secretion of gastric juice by bringing a flush of blood to the gastric capillaries, but in dyspeptics this might be followed by a defective secretion next day. In concentrated form alcohol destroyed the power of digestion by its injurious action on the stomach. The readiness with which alcohol is absorbed, and its diffusive power, enable it to reach various parts of the body in an extremely short space of time, and so to work changes there. The injury done by alcohol is much greater if it contains amylic alcohol and fusel oil, which are always present in potato spirit and the spirit with which wine is fortified. They make the fluid pleasanter to the taste, and even give it a "bouquet," but their effects are far more serious and more immediate than those which follow from the simple use of ethylic alcohol. It was not certain whether the congestion produced by alcohol was produced by an immediate action on the tissue of the capillary, or whether the first effect is on the nerve-centre, or whether the effect on the nerve-centre may not accrue as well as a local effect be produced by vaso-motor paralysis. He said he rarely met with acute neuralgia in the total abstainer, while hysteria is in a great measure absent from those whose ancestors have been perfectly temperate people. Alcohol or other neurotics often gave immediate relief, but only to cause further ultimate mischief. Many forms of so-called rheumatism had an alcoholic origin. Here a cure is only to be obtained by cutting off the alcohol. As to the dipsomaniac, the first step in treating him is to cut off his drink and restore his digestive power,—the latter often being difficult of attainment. The deposits which were laid down in the glandular system and other tissues were to be removed as far as possible. It was only by long-continued self-denial that the cure could be completed. The immediate effect of alcohol is to dilate the capillaries of the nerve-centres to three or four times their ordinary dimensions, and so to flood the brain with blood. Atrophic degeneration was, however, the ultimate outcome of this artificially produced vascularity. The hallucinations and delusions which accompany excess of alcohol are associated with capillary dilatation, and as a sequence there is pressure on nerve-substance which cannot be repeatedly renewed without the risk of subsequent atrophy or degeneration of one or other part of the affected tissue. No wonder, then, if the cure required time. He then referred to the frequency of sunstroke in those who indulge in alcohol to excess. As to the therapeutic use of alcohol in fever, the cases which required it were those where there were a dry tongue and skin with no sickness and no

indication of a cerebro-spinal lesion. Alcohol here produces a lessened temperature, a slower pulse, a moister tongue, and a quieter condition generally. Another temporary condition benefited by alcohol is that where the surface has been chilled and internal congestion produced, for alcohol dilates the cutaneous capillaries and so permits the blood to flow again in its wonted channels. From its effects upon the capillaries and upon the heart itself it might be given with advantage in cases of shock, and in prostration produced by acute disease. For the same reason alcohol is useful to certain persons even in comparative health, that is, where the powers are waning and the heart fails to transmit blood in sufficient quantity to the extremities of the body, and the aged person readily feels cold. A moderate dose of alcohol taken with food is beneficial in these cases.

As to its evil effects, he said, work which is kept going by continuous doses of alcohol always ends in a break-down. If it is taken for the purpose of increasing muscular exertion, ultimately there is great loss of muscular power, as all athletes know. If mental exertions are kept going by alcohol, there is a mental break-down, as the lunatic asylums testify. The evidence of various campaigns proves that alcohol is not an advantage, but rather otherwise, in war. He concluded by relating some statistics showing the effects of alcohol in producing crime, saying, "I have only to remark that alcohol in any of its forms may be a good medicine, but it is a bad diet, and that its action as a poison is visible among all ranks of society."

An interesting case bearing on the history of vegetable cutaneous parasites occurred the other day in a delicate-looking girl of 19, who had tinea circinata of the neck. It was complicated by something else: so I sent her to Mr. Malcolm Morris, a rising dermatologist, for further investigation. He found that eighteen months previous to this time she had nursed a child who had ring-worm of the scalp, and that she had noticed a small red spot the size of a sixpence on the side of the neck. This spot gradually spread, and as it spread it healed and disappeared in the centre. After this other spots showed themselves in various parts of the neck and arms, each growing larger, as the first had done, by spreading round the circumference and healing internally. On examination, Mr. Morris found several well-defined and raised erythematous rings of tinea circinata. An interesting feature in these rings was their almost uniformly symmetrical position. For instance, three were situated on each side of the neck, two in front of each shoulder, one in each axilla, and one in front of each elbow-joint. Besides these there were one or two larger patches on the front of the chest. While removing some of the cuticle from one of the rings for the purpose of examination under

the microscope, he observed that the skin in the area of the ringworm and also on the front of the chest was not normal. In fact, it was covered with a patch of irregular outline of tinea versicolor,—or chloasma, as it is often called. This was a new and interesting fact in the clinical history of vegetable parasitic diseases of the skin : so, to be quite certain of the diagnosis, he examined the scales removed from several parts of the surface, after carefully preparing them in liquor potassæ, under a No. 8 Hartnack. The characteristic grouping of the spores peculiar to chloasma was readily seen ; but it was with difficulty that he found the mycelium to verify the diagnosis of ringworm, and then only after long washing in ether and absolute alcohol. The chief point of interest about this case was that one fungus, the microsporon furfur, could flourish on the soil which had been abandoned by the other fungus, the trichophyton. Out of this case arise several questions of great interest to dermatologists. Mr. Morris asks, are they the same fungus in a different state of development ? Some observers have recorded the fact that ringworm can produce fevers, while Jonathan Hutchinson has stated that ringworm in a child is capable of producing pityriasis versicolor in the adult. Or, says he, could it have been so in this case ? Could the ringworm, which had been present for twelve months before the appearance of the chloasma, have given rise to this chloasma ? He is inclined to think it could ; but, before being more positive, more data are required on which to base conclusions. One thing is, however, patently apparent, and that is that on ground exhausted by one form of parasite another can still flourish : whether the parasites are of the same or of different races, however, it is not yet determined.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 14, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

(Continued from page 406.)

Embotic pneumonia concurrent with disease of the heart. Presented by Dr. E. O. SHAKESPEARE.

I AM indebted to Dr. O'Neill, resident physician of the Philadelphia Hospital, for the following brief summary :

Charles H., aged 42 years, a tobacco-merchant ; had always been addicted to the use of tobacco,—an inveterate smoker, and somewhat of a chewer ; had enjoyed perfect health up to about three years ago, when he had a

stroke of paralysis, the right side being affected. He entered the Philadelphia Hospital on the 29th of January, 1878. On auscultation there was heard a decided murmur with the first sound of the heart, at the apex and left side. There was a bounding pulsation and jerking pulse at the wrist. There was œdema of the lower extremities, extending far up the legs. He suffered with dyspnoea, so that the sitting posture was constantly retained. Articulation was slightly impaired.

Diagnosis.—Hypertrophy, with dilatation, and a button-hole mitral valve. Death was sudden, occurring in from five to eight minutes.

Post-mortem examination.—*Appearance of the body.*—Face and neck cyanosed ; legs and feet swollen. On opening the thoracic and abdominal cavities, there was found a straw-colored serous effusion.

Heart.—Slightly dilated left auricle ; hypertrophy of left ventricle, with constricted button-hole mitral valve. Ante-mortem clot in the left auricle. No clot in right heart.

Brain.—Softening towards the base of left hemisphere ; an old cyst, the contents of which had become fluid, was found below floor of left ventricle, about an inch behind the anterior horn, and the same distance to left of median line.

Lungs.—Right lower lobe shows three or four infarctions, varying in size from that of a hazel-nut to that of a walnut. They extend to surface of pleura, are mainly wedge-shaped, and present, on section, a red, granular appearance, are solid, and have sharply-circumscribed borders. Around the border is a zone of intense hyperæmia. Only one shows any tendency to softening. There is a small similar infarction in the middle lobe ; also one in the upper. At lower anterior edge of left upper lobe are two infarctions ; none elsewhere in left lung. Pleural surface of all the infarctions is raised, and there are some bands of lymph here. In one of the infarcts a firm, solid, reddish clot was found occluding the lumen of the largest vessel in it. The lung-parenchyma elsewhere was somewhat hyperæmic, but otherwise normal. Liver, spleen, and kidneys, not abnormal.

Miliary tuberculosis with pleuro-pneumonia.

Presented by Dr. E. O. SHAKESPEARE.

Dr. Garrett, resident physician of the Philadelphia Hospital, furnished the following abstracts of the clinical history of the two succeeding cases :

Walter M., æt. four months and six days. Parents are healthy, and, as far as can be ascertained, have no syphilitic taint. The mother is 23, and this is her fourth child, each being by a different man. All her children are dead. The first died with symptoms of jaundice. The other two were taken with bronchitis, and died with the same symptoms, the mother says, as the case

before us. Baby Walter was a large, plump, and healthy child until this last attack of sickness. He was taken sick in the middle of December with a cold in the head, which passed into bronchitis, and then a few days later into a pleuro-pneumonia. During the last two or three weeks of his sickness he lost flesh, but not to a very marked degree. His symptoms were cough, which varied at times in severity; fever, which was severe at night, and almost entirely disappeared in the morning; pain, at times very severe, shown by a very peculiar distressed cry, great restlessness, a rolling of the head from side to side so that the hair was worn from the back of the head, a contraction of the eyebrows, a pulling and twisting of the fingers, etc.; and a tendency in the bowels to be loose. The last week was marked with occasional convulsions.

Treatment consisted in counter-irritation and warm moist applications to the chest; stimulating and sedative cough-mixtures; and supportive and anodyne measures.

Autopsy.—Brain.—Slight fulness of large vessels of pia mater, which nowhere showed decided milkiness or deposits of lymph. On vessels in fissura Sylvii, probably a half-dozen minute miliary tubercles. Otherwise appearance of encephalon and its membranes not abnormal.

Lungs.—Scattered through substance of all lobes of right lung are numerous minute, firm, gray nodules, presenting the appearance of miliary tubercles. Around these are small zones of lobular pneumonia. Intervening portions of lung more or less congested; slightly crepitant. Left upper lobe shows only a few of the above-named points. In left lower lobe they are more numerous than in last-named lobe, but not so abundant as in right lung. No decidedly cheesy points. The bronchial glands are enlarged, some of them red, others gray, but not softened. Bronchial and tracheal mucous membranes not much affected. Over whole left lung pleuritic membrane thickened and covered with thick layer of lymph.

Heart.—Normal. Liver and spleen show numerous disseminated small gray tubercle-like points. Mesenteric glands somewhat enlarged, but not softened. Some of them present gray surface on section. Kidneys normal.

Chronic catarrhal pneumonia. Presented by Dr. E. O. SHAKESPEARE.

Elizabeth J., æt. three months and twelve days. Was unable to obtain any antecedent family history. Mother died nine days after she was delivered, of traumatic peritonitis, consequent upon rupture of the uterus. She was known to have a cough, but it is not known whether she had phthisis. Child at birth was fat and healthy-looking, and weighed eight pounds. At the end of its first month it began to emaciate, and con-

tinued to do so until death. She had no cough until one month ago, when she had an attack of bronchitis. Since this attack she has had daily evening exacerbations of temperature. During the last week she had occasional attacks of epistaxis.

Autopsy.—Brain, heart, liver, spleen, intestines, kidneys, apparently normal.

Right Lung.—Upper lobe, apex, and posterior portion atelectatic; surface depressed, dark bluish-red; leathery consistence. Small portion of upper posterior part of lower lobe in same condition, as well as a few small spots at upper anterior part of middle lobe. Elsewhere over the surface of the lung were scattered here and there small gelatinous-looking spots, with their surface raised above the general level. With the exception of areas corresponding to the above-named points, surface of lung was smooth, light pinkish color; its substance was finely crepitant. Bronchial glands on this side slightly enlarged and red. Bronchial mucous membrane not visibly altered. No pleuritic adhesion on the side.

Left Lung.—Firm adhesions at apex. Both lobes solid, not much swollen. Upper more firm than lower. At apex of upper lobe is a large, irregular cavity as large as a walnut, partly filled with a gray grumous fluid. Thickened pleura forms outer wall of cavity. Here is the location of the adhesions. The surface of section of the upper lobe shows a firm, somewhat semi-transparent pinkish gray infiltration of parenchyma, scattered over with numerous yellowish cheesy points a little larger than a mustard-seed. Some of these points have softened centres. Cut surface of lower lobe shows same general appearance. Cheesy points not so numerous. Lymph-glands at root of this lung large, cheesy, and softened. Pus in smaller bronchi.

Thin sections of lungs from first case (*miliary tuberculosis*) show, under the microscope, small tubercles, mainly on small bronchi. Perivascular sheath of vessels but seldom involved. Around tubercles are areas of catarrhal pneumonia. Portions of lung between nodules show slight irritation of alveolar epithelium, and fulness of corresponding capillary nets.

Thin sections from the left lung of the second case (*chronic catarrhal pneumonia*), under the microscope, show the whole of the lung-substance in a condition of catarrhal pneumonia of the second stage. Some few of the cheesy nodules do not differ in appearance from those of the first case. Right lung was not examined microscopically.

THE Supreme Court of Alabama has decided that a doctor may be summoned as a witness and be made to give a medical opinion without compensation.—*Boston Medical and Surgical Journal*.

REVIEWS AND BOOK NOTICES.

CEREBRAL HYPERÆMIA—THE RESULT OF MENTAL STRAIN OR EMOTIONAL DISTURBANCE. BY WM. A. HAMMOND, M.D. New York: G. P. Putnam's Sons, 1878.

Somebody has lately been antagonizing the time-honored line, "Satan finds some mischief still for idle hands to do," with considerable success, since the danger of the age seems to lie in too much instead of too little activity of mind and body. We are all presumably familiar with the condition cerebral anæmia and with its dangers. Just at present something new steps before the footlights, and cerebral hyperæmia stands revealed.

The brain overwrought seems fraught with deadly consequences other than those depending upon anæmia; indeed, after reading the elegantly-bound and clearly-printed monograph of Dr. Hammond, while we felt not the slightest symptoms of the condition he so vividly describes, still we could but look forward to any future mental work with fear. Who knows when his brain may be getting "hyperæmic"? The development of the symptoms may be quite sudden. And then to think of the treatment, which in two such cases (p. 103) did so much good,—“leeches to the inside of the nostril”! For once, happy is the victim of *ozæna*, whose nose the leeches utterly refuse.

For the last twelve years, or, in fact, ever since the publication of Dr. Hammond's monograph on wakefulness,—we draw our facts from the book before us,—very few observers have carried out the suggestive ideas then presented by him—one might almost say—for the first time; and, unfortunately,—the book is still our authority,—the few observations “made by others have been from wrong stand-points, and hence devoid of satisfactory therapeutical results.” While this is greatly to be regretted, it is perhaps less so from the fact that Dr. Hammond has been induced, for this very reason, to again turn his eye and bend his mind upon this and kindred topics, with the result, among others, now before us. The author has entered upon that great field, so hazardous to cultivators, which may be termed creative medicine, and introduces to us hyperæmia of the brain, not temporary fulness or temporary congestion, but a disease, capable of sustained action; in other words, a distinct, permanent pathological condition of hyperæmia.

Of the tangible evidences of permanent over-distention of the cerebral vessels from prolonged mental and emotional excitement and other causes there exist few or none. Our author admits as much by calling it “an inference,” strong as certainty to himself, but at present incapable of actual demonstration. We have followed the argument, or substitute for one, but it will hardly come to the reader with the force of a demonstration.

But, if only possessed of faith enough, with what sublime assurance can the anxious attendant rest his diagnosis upon this little book! In cases of cerebral anæmia and hyperæmia, two opposite conditions demanding urgently opposite lines of treatment, “errors of diagnosis [p. 65], when we bring to our aid the calorimeter of Lombard, or sufficiently delicate thermometers, . . . the ophthalmoscope and the aural speculum, can scarcely occur.” It is well if the case be not urgent; else the overloaded practitioner, arriving hastily,—out of breath,—if happily he have not broken his apparatus, has no trivial task before him in applying the “sufficiently delicate thermometers,” the ophthalmoscope, the aural speculum, and the calorimeter of Lombard. But then how overawing and final the diagnosis when at last it is reached!

But apart from instrumental assistance we have other aids. In anæmia of the brain (p. 65) the patient is almost constantly drowsy. “No diagnostic mark is of so great importance as this latter; and I regard it as of itself sufficient to determine the question.” So that, after all, we may not need the calorimeter of Lombard.

The subject of the condition of the brain in sleep has been disputed for the last time. “Sleep is the result of a diminished amount of blood in the cerebral vessels.” “Wakefulness is produced by an excessive amount of arterial blood in the brain” (p. 65). Hence wakefulness is a symptom of hyperæmia. True, when excessive in amount, in fact, congestion, “stupor may ensue;” but stupor, our author kindly adds, “is by no means sleep.” Now, how do we know, and on whose authority is it settled once for all, that anæmia of the brain produces sleep? A foot-note refers us to our author's treatise on Diseases of the Nervous System, ed. vi.

Again, on p. 85, “The persistent insomnia always present, a condition now known to be due to cerebral hyperæmia.” We were not sure at first how *we* came to know the above, but, on considering, remembered reading it in this book. The question may therefore be regarded as settled.

Page 89 opens up a new field of thought. In this age of the speaking phonograph, what may not be expected? Grant that we are all as a race becoming wearied and inheriting brain-exhaustion, why not then transact all business reclining? The ancients reclined at the amusements of life: let us recline at its work. As the natives of Laputa, with a partial glimpse of this great thought, went about with heads on one side and the finger pressed to the brow, so why may not the overworked advocate and the weary physician recline while giving opinions and arguing cases? Why may not the learned judges, without shadow of suspicion, lie on the bench, and the legal lights lie at the bar? Our best work, perhaps, has never been done. Is a certain poem

charming from its elegant diction and melodious rhyme? let the author lie down and reconsider his work, and perchance from a second-rate poet he may burst upon the world a Tennyson or a Swinburne. Or do these distinguished poets and the distinguished author now before us already lie down when composing?

But, as a serious suggestion, if wakefulness be a symptom of cerebral hyperæmia, and drowsiness and sleep of its opposite, is it not certain that a numerous class of cases spend their lives alternating between these two conditions? are not all medical men familiar with patients who cannot keep awake all day and cannot sleep at night? and if these cases are anæmia by day and hyperæmia by night, where are the author's fine-spun theories, and where is the entity of disease called cerebral hyperæmia?

E. W. W.

GLEANINGS FROM EXCHANGES.

THE DANGERS OF THE AIR FROM SEWERS.—A very suggestive series of experiments has recently been performed by Prof. Frankland, with the object of ascertaining how far it is possible for solid or liquid particles to be scattered in the air of sewers as it passes along over the sewage. By using a solution of a salt of lithia mixed with water, and then agitating the mixture more than would take place under any circumstances in sewers, he was unable to detect in the contiguous air any trace of lithia even by the spectroscope. By generating gases in the fluid, however, in a manner similar to what occurs during putrefaction, the particles of lithia were carried into the air with these gases, and were easily ascertained to be present there. The bearing of these facts upon the importance of having all sewage discharged before it putrefies, and the danger of all cess-pools, whether in sewers or out of them, is quite manifest.—*Boston Medical and Surgical Journal*, March 7.

HYPERTROPHY, DILATATION, AND FATTY DEGENERATION OF THE HEART, CONSEQUENT UPON PROLONGED MUSCULAR EXERTION (*Canada Medical and Surgical Journal*, March, 1878).—Dr. Wm. Osler reports a case of hypertrophy of the heart occurring in a very muscular man, and analyzes a number of papers bearing upon this subject, in reference to which he comes to the following conclusions:

1. Sudden and violent exertion may cause rupture or laceration of the valves,—a very serious lesion, which often proves fatal within a short time.

2. The augmented resistance to the flow of blood during severe and prolonged muscular exertion increases the work of the heart, which, in response to the demand made upon it, enlarges. The blood-pressure in the aorta, abnormally high even during the diastole, is

much increased during the systole of the powerful left ventricle, and the coats of the vessel yield, commonly at the arch, becoming pouched and atheromatous. Subsequently incompetency ensues, either from stretching of the aortic orifice or giving way of the valves.

3. In the functional disorder of the heart described by Da Costa, Myers, and others as common in young soldiers, and termed by the former "irritable heart," there is hypertrophy of the muscular walls of the organ, caused by over-work at drill and the constricting effects of the military accoutrements. This may in time be followed by valvular disease.

4. It appears from a number of recorded cases that overwork of the muscles may induce a primary dilatation and hypertrophy of the heart, which, without valve affection or arterial degeneration, may prove fatal with all the symptoms of chronic cardiac disease.

But how, it may be asked, is all this brought about? Severe muscular exertion affects the circulation in two ways: first, by interfering with respiration and the free passage of blood through the lungs; the right heart gets overloaded, the systemic veins full, and thus an obstacle is offered to the outflow of blood from the arteries; in consequence of which the left ventricle becomes dilated and must hypertrophy to overcome the increased resistance to the arterial flow.

Secondly, the effect of over-exertion may act in a much more direct manner. The experiments of Traube upon dogs have shown that during extensive muscular contraction the blood-pressure in the arteries is greatly increased, and the same may reasonably be inferred of men. The more laborious the work, and the more violent the contraction of the muscles, so much the greater difficulty has the blood in flowing through the systemic arteries. The arterial pressure is increased and the blood tends to accumulate in the aorta and the left ventricle. If the nutrition be maintained, no ill effect will follow from this, for the left ventricle hypertrophies and the balance is restored. That this state does exist is a well-attested fact, and Albutt speaking of this early condition of hypertrophy says "that he has found in a few autopsies of such men killed by accident or acute disease, that the ventricles, the left especially, are, like their bicipites, large and red," the heart weighing as much as sixteen ounces.

THE SIGNIFICANCE OF THE CÆCUM.—Dr. Dureau (*Thèses de Paris*, 1877) discusses anew this subject by the light of comparative anatomy. The cæcum is rudimentary in man, carnivora, quadrumana, amphibia, insectivora, etc.; in rodents, pachyderms, and ruminants it is of capital importance. Among birds, it is similarly reduced to a simple tubercle among the rapacious birds (essentially carnivorous), and is prodigiously developed

among the gallinaceous and certain of the palmipedes. Among herbivorous animals and birds it appears to serve as a reservoir of elaboration and absorption of the food, its removal leading to extreme emaciation. In man and other carnivores it does not seem to be of any use: it exists, one might say, as an anatomical protest against vegetarianism.—*British Medical Journal*, February 23, 1878.

VISCUM ALBUM (MISTLETOE) AS AN OXY-TOXIC (*Louisville Medical News*, March 16, 1878).—Dr. W. H. Long has used mistletoe in the form of infusion, tincture, decoction, or, preferably, fluid extract, in many cases of menorrhagia and post-partum hemorrhage, with gratifying results. He believes it to be far superior to ergot—

1. Because it acts with more certainty and promptness.

2. Because, instead of producing a continuous or tonic contraction, as ergot does, it stimulates the uterus to contractions that are natural, with regular intervals of rest. Consequently it can be used in any stage of labor, and in primiparæ where ergot is not admissible.

3. It can always be procured fresh, does not deteriorate by keeping, and is easily prepared.

RUPTURE OF THE UTERUS (*The Boston Medical and Surgical Journal*, March 7, 1878).—Dr. C. B. Nichols was summoned to attend in confinement a woman, æt. 51, and who had had nine children. Upon entering the room he found the patient in *articulo mortis*, and obtained the following history:

For the first twelve hours her labor-pains were rather light, and after trying the effect of walking and several positions to assist in the descent of the child, it was discovered that the cord had presented at the vulva. The previous attendant not deeming this of any advantage to the case, it was cut as short as possible, and each end was tied, after which the patient was allowed a few hours' sleep, and then exercise and position were again resorted to, with better success than before. This time a hand and arm presented themselves and demanded exit, but the attendant, preferring not to accept of such a small portion of a presumably good-sized child, made several ineffectual attempts to "shove" the offending arm back. Not being able to accomplish this, the arm and some portions of the vagina were amputated, the arm at the elbow, and the vagina in small, lacerated pieces. After this there was a hemorrhage sufficient to saturate the bedding and run down on to the floor. The husband, becoming anxious in regard to the safety of the mother, suggested a consultation, and Dr. Nichols was sent for. It being some sixteen miles, he did not arrive until the patient was nearly dead. Under these circumstances he refused to make any attempt at delivery, as the child had been dead for some time, and

the mother was nearly so. The vagina was badly swollen, the patient was pulseless and cold, and a few moments closed the scene.

After waiting a proper length of time, he made a post-mortem examination. Upon opening the abdomen the back and nates of the child presented, and farther examination showed a rupture of the uterus from fundus to neck. There was a small quantity of blood in the pelvic cavity, and the walls of the vagina were lacerated in several places.

VOMITING DURING GESTATION.—For the relief of this distressing complication, which is sometimes very obstinate, M. Labelski, a Polish physician, suggested a simple remedy at a late meeting of the Belgian Academy of Medicine. It consists in applying to the epigastric and corresponding dorsal regions a jet of ether spray from Dr. Richardson's irrigator. The douche is applied from three to five minutes at a time, four or five times a day, according to the severity of the symptom. The relief, we are informed, is immediate, and the ultimate success almost certain.—*Medical Examiner*.

TELEPHONIC AUSCULTATION.—A correspondent in a late issue of the *Student's Journal* has the following: "In my last letter I suggested that the telephone might be used for the purpose of diagnosing heart and lung diseases. I scarcely expected to be called upon just yet to announce that the idea has been carried out, but I observe that a correspondent of the *Medical Press and Circular* states that he has been able with the telephone to hear the sounds of the chest distinctly at a distance of thirty yards. The time may come when our fashionable physicians will have consulting-rooms in the large provincial towns, each having telephonic communication with his London consulting-room, where he will sit, examine, and prescribe for those patients who would find it inconvenient to come up to town to consult him. Of course patients would have to attend at the provincial consulting-room at such times as he would appoint. Bristol patients could attend at 10 o'clock A.M., Birmingham at 10.30, Oxford at 11, and so on. There would probably be some difficulty about the fees: they could not be transmitted by telephone. But these could be paid to an agent or secretary."—*Dublin Press and Circular*.

THE RAIN-TREE.—At a recent meeting of the Linnæan Society, Professor Thistleton Dyer described the "rain-tree" of Mogobamba, South America, under the name of *Pithecolobium saman*. The so-called "rain" is the fluid excreta of cicadas which feed on the juices of the foliage, and its dropping is therefore analogous to the "honey-dew" which sometimes drops from the leaves of lime-trees by the agency of aphides.

MISCELLANY.

THYMOL.—Thymol, a homologue of phenol, and extracted from the essential oil of thyme, of the American horse-radish, and of the *Ptychotis ajowan*, has been used as an antiseptic by German surgeons for more than two years, and is now being introduced into America. Discovered in 1709 by Caspar Neumann, it was first used to deodorize unhealthy wounds in 1868 by Bouillon and Baquet, of Lille. Under certain circumstances its antiseptic qualities are said to be from four to twenty-five times as powerful as those of carbolic acid. Thymol is crystalline, nearly colorless, has a pleasant odor and an aromatic, burning taste; it dissolves in twelve hundred parts of water, one part of rectified spirit, and one hundred and twenty parts of glycerin. Its action as a poison is only one-tenth that of carbolic acid, and it does not irritate the skin. These qualities, together with its great antiseptic power, indicate its substitution for carbolic acid in the Lister treatment of wounds. Professor Volkmann, of Halle, has used it in preference, and with great success. It has also been used for various skin diseases by Dr. R. Crocker, of London. For further details see *New Remedies* for April 16, and Mr. Gerrard's paper in the *Pharmaceutical Journal*. As an ointment, Crocker uses five to thirty grains of thymol to one ounce of vaseline; as a lotion, thymol, gr. v; spirit, rectif. et glycerin., āā 3j; aquæ, q. s. ad 3viij. Since one part of thymol will do as much antiseptic work as twenty-five parts of carbolic acid, the former is really the cheaper of the two, although in equal bulk it costs five times as much as the latter.—*Boston Medical and Surgical Journal*.

SOUL-MEDICINE.—"In allopathy the soul is nowhere; in homœopathy the state of the soul and mind is a *sine qua non*.

"Allopathy has no means of affecting the soul or mind, except those of a moral kind; whereas homœopathic medicines act upon the spirit or soul of man, and through it, and by means of it, and with a certainty which is as remarkable as it is true.

"By way of illustrating the power of homœopathic medicines over the mind and its affections, I shall give the following example. A favorite cat of my own had kittens. All were drowned but two; then one was given away, and ultimately the remaining one was given to a friend. The mother of the kittens became *inconsolable*, and went all over the house mourning her loss in unmistakable *tones of grief*, for five days and nights, 'making night hideous' with her cries. One globule of *Ignatia* cured her in a half an hour, as she never cried again."—*Skinner's Diseases of Women*, p. 27, Porter & Coates, Philadelphia.

THE NUTRITIVE VALUE OF MILK, as calculated from its elements, is very large, and its price is low as compared with meat. Accord-

ing to the Kensington Museum Catalogue, one pound of milk can produce at the maximum .8 ounce of dry muscle or flesh, and, if digested and oxidized in the body, is capable of producing a force equal to three hundred and ninety tons raised one foot high. One pound of lean beef is reckoned as a force-producer as nine hundred and ninety foot tons. Calculating the dry muscle as moist flesh, twenty-five pounds of milk are equal to four pounds of lean beef in nutritive value, or, in other words, one pound of beef is equal in nutritive value to 2.9 quarts of milk. Now, when milk is seven cents a quart, it is cheaper than beef at twenty-one cents a pound. We are led to these remarks by being reminded of the small consumption of milk by an ordinary population. From the best authority it is stated that but two-fifths of a pint a day are used in the asylums, schools, etc., in England; two-sevenths of a pint a day in one town, Sterlin; and but one-fifth of a pint a day in the English towns of Mansfield and Bedford. According to Dr. Edward Smith, the following table represents the consumption in the given place for each adult:

In England,	32 oz. weekly.
Scotland,	125 " "
Wales,	85 " "
Ireland,	135 " "

—*The Sanitarian*.

DR. HARRISON ALLEN has been elected Professor of the Institutes of Medicine in the University of Pennsylvania. It is proposed to make the chair purely physiological.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM MAY 19 TO JUNE 1, 1878.

Surgeons J. R. SMITH, B. E. FRYER, J. J. WOODWARD, and J. S. BILLINGS were designated to represent the Medical Department of the Army at the annual meeting of the American Medical Association, held in Buffalo, N. Y., on June 4, 1878. S. O. 109, A. G. O., May 21, 1878.

By direction of the Secretary of War, a Board, to consist of Surgeons E. P. VOLLUM, B. J. D. IRWIN, and Assistant-Surgeon H. LIPPINCOTT, is ordered to meet at the United States Military Academy, West Point, on June 11, to examine into the physical qualifications of the graduates and of the candidates for admission to the Academy. S. O. 116, A. G. O., May 29, 1878.

MIDDLETON, J. V. D., MAJOR AND SURGEON.—Relieved from duty at Fort Schuyler, N. Y. H., and assigned to duty as Post-Surgeon at Fort Wadsworth, N. Y. H. S. O. 86, Department of the East, May 17, 1878.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 92, Department of the Missouri, May 21, 1878.

CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for two months. S. O. 108, A. G. O., May 18, 1878.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for two months. S. O. 112, A. G. O., May 24, 1878.

YEOMANS, A. A., CAPTAIN AND ASSISTANT-SURGEON.—Upon abandonment of Fort Richardson, to move with detachment of Tenth Infantry to Fort Griffin, Texas, and there take post. S. O. 106, Department of Texas, May 21, 1878.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JUNE 22, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON RELAPSES IN TYPHOID FEVER, AND ON TYPHO-MALARIAL FE- VER.

Delivered at the Pennsylvania Hospital

BY J. M. DA COSTA, M.D.,

Professor of the Practice of Medicine in Jefferson Medical
School.

(Reported for the *Medical Times*.)

RELAPSES IN TYPHOID FEVER.

THIS patient was admitted to the wards on the 6th of March. He is a sailor, an Italian by birth, and entirely unable to speak the English language. The history of the case prior to admission is not therefore as full as might be desired. As far as we could gather at that time, however, the man had been ill for about a week before he came into our hands. For the space of three days prior to admission he had been confined to bed with cough, diarrhoea, abdominal pain, and headache. He still suffered from these symptoms when he was admitted into the hospital. There had evidently been some history of exposure to malarial influences. The typical eruption which appeared in due time, the tympanites, the delirium, and the more or less constant and copious diarrhoea combined to render the diagnosis of the case plain,—it was evidently a severe case of typhoid fever. For some days the temperature was quite high at the evening exacerbations, marking 105° , 104° , and $103\frac{1}{2}^{\circ}$.

By the end of the third week of the attack, March 21, the patient was distinctly convalescent. His pulse was 72, and his temperature varied from $98\frac{1}{2}^{\circ}$ to 99° . On the 24th of March the temperature was down to normal. Later still the patient was allowed to dress and leave the ward. He was furiously hungry, and, notwithstanding our cautions, he partook of a very ample meal of chicken and boiled potatoes. This was on the 7th of April. After this repast he complained of considerable pain in the abdomen, and his temperature ran up suddenly to 105° in the evening. The next morning it declined to 103° . From that time on until a few days ago (April 10) it has remained in the neighborhood of 103° . The diar-

rhoea returned, there was considerable delirium at night and marked febrile phenomena. The pulse varied from 100 to 120 per minute, and the belly again became tender and tympanitic. At first the man's bowels were somewhat constipated, but afterwards there were from two to three stools daily. Very early in the relapse the tongue became coated and showed the peculiar reddish hue at its tip.

This morning (April 13) the temperature was $101\frac{1}{2}^{\circ}$, and the tongue still slightly coated and red at the tip. The patient sweats slightly, and a marked typhoid fever eruption appears over the abdomen upon pressure. This eruption came on early in the relapse, thirty-six hours after the first symptom appeared. The resident physician, indeed, tells me that a few spots made their appearance in the first twenty-four hours. From this we see that the eruption came on almost simultaneously with the relapse and consequent rise of temperature. The splenic dulness is once more present, the spleen extending slightly beyond the margin of the ribs. As soon as the relapse announced itself, we placed the patient once more upon ten grains of quinia daily and ten drops of muriatic acid every three hours. He was sponged all over with cold water in the mornings and evenings. Within the past two days the diarrhoea has been but slight,—one or two passages daily,—the man sleeps well at night, and is, in fact, once more on the rapid road to recovery. To-day is just the ending of the first week of the relapse.

Before sending this man back to the wards, I want to call your attention to a few points of interest in the case, and, in the first place, I wish to show you that a relapse in the course of typhoid fever may occur after the patient is to all intents and purposes entirely well of the disease. As regards the febrile phenomena of a relapse, they may be just as marked as at first,—*i.e.*, at the beginning of the first attack,—with this exception, that the rise of temperature is immediate in a relapse. In the original attack the temperature rises gradually,—rising and dropping each evening and morning until the fifth day, when it reaches its average height for the following two weeks.

In the second place, in a relapse the fever runs a more irregular course than in

the original attack. The fever is not so sustained, and there are greater variations of temperature. Then again a relapse of typhoid fever is never so long as the original attack. This is only the fifth day of this man's relapse, and yet the temperature is already down to $101\frac{1}{2}^{\circ}$. In the course of five days more, if all goes well, the temperature will be all right again.

As regards the eruption in a relapse of typhoid fever, until I had made a particular study of this point myself, I did not know that it was the rule for the eruption to appear almost coincidentally with the first symptoms of the relapse. In this instance it appeared in the course of the first twenty-four hours. In the original attack, and indeed generally, it does not show itself until the seventh or ninth day. The eruption of the first attack and of the relapse does not differ in character. Each relapse of typhoid fever is accompanied by an eruption, and this eruption usually lasts as long as the relapse itself. The eruption is not always in proportion to the intensity of the attack,—*i.e.*, the intensity of the enteric symptoms. It is generally, however, most marked where the enteric symptoms are most marked.

There are many other points to which I might call your attention, such as the condition of the nails, tongue, etc., in a relapse, but I have not time to spare to-day for the consideration of these interesting matters.

In the majority of instances of relapse in this disease the prognosis is not bad, the mortality being but very slight if such cases receive the proper attention.

I had this patient put upon the same treatment which I had employed at first. He is taking quinia and muriatic acid, and his body is sponged every night and morning. We are limiting the diarrhoea by opiates and astringents, and carefully regulating the diet.

As regards the origin of this relapse, I may say to you that I was inclined at first to attribute it to the excess in diet, but later inquiries have convinced me that that view is untenable. He had eaten a good deal, but before that time had complained of headache and tympanites. I must leave the cause doubtful.

TYPHO-MALARIAL FEVER.

This young girl is about eighteen years of age, and has always enjoyed the most

perfect health up to the time of her present sickness. She states that she has never had malarial fever nor rheumatism. Last summer an eruption appeared on her face, but that was probably of some passing kind and connected with hepatic disturbance. Three months after the eruption had disappeared her feet began to swell and her menses suddenly stopped and since then have been very irregular. With all this, however, there is no clear history of an attack of fever. It was probably nothing but disordered digestion. A week prior to her admission to the wards the patient was seized with fever, headache, and pain in the back, stomach, and left side. Her face too was very much flushed. The thermometer marked $102\frac{1}{2}^{\circ}$ on the evening of her admission. Her tongue was coated and dry. The pain in her neck and in the back of her head grew more intense. She also complained of cough and of pain in her left chest. There was no stiffness of the neck and none of the symptoms of cerebro-spinal meningitis. There was a slight amount of nausea and gastric uneasiness.

As regards my diagnosis of the case, the intestinal pains, the fever apparently without cause, the headache, and the age of the patient all pointed towards typhoid fever. On the second day after admission, however, I decided positively that it was not a case of typhoid fever, and this conclusion has been verified by the results. The symptom which led me to exclude the thought of typhoid fever was the extraordinary temperature record,—showing such marked remissions and exacerbations. In the corresponding stage of typhoid fever such a state of affairs would be almost if not entirely unknown. On the evening of the third day of admission the temperature was 103° , on the third morning it was 99° , on the third evening it again rose to 103° . For several days following this time there was a daily variation of from 3° to 4° between morning and evening temperature. On the 9th of the month the morning temperature was 99° , and the evening temperature 101° . On the 11th the temperature was about normal, with but very little difference between morning and evening charts. On the 12th, yesterday, I ordered the quinia to be stopped, as *quininism* was rapidly making its appearance. The patient had been taking a daily dose of sixteen grains of the drug.

Our treatment by quinia had proved two things to our entire satisfaction,—first, that our view of the nature of the case was the only correct one, and, second, that the minute you discontinue the antiperiodic in a case of malarial infection the temperature may run right up again, although you may have succeeded in reducing it almost to the normal state. (On the evening of the 12th the temperature rose again to 101°.)

This morning the patient's pulse is 74, her respirations 26, and her temperature 99¼°. Her face is somewhat flushed. She is again under the influence of quinia, having taken eight grains this morning. There is no enteric tenderness and no eruption. The spleen is somewhat enlarged, extending, as it does, nearly an inch below the ribs. The area of liver dulness is but slightly increased below the margin of the ribs. There is a left, basic, systolic blood-murmur to be distinguished over the heart.

What can I tell you with regard to the probable origin of this case? It looked very much at first like a case of typhoid fever, but we soon dismissed that idea. Though plainly an instance of malarial fever, we can discover no previous history of malarial exposure. Lately, indeed, the woman has been living in a part of the city which at some rare intervals furnishes cases of malarial infection. I cannot tell you positively concerning the origin of the case: it is doubtful to me.

Therapeutically the case has been of much clinical interest. It has been an admirable and convincing proof of the value of quinia. Quinia, as we have just seen, does not act rapidly in this disease as it does in remittent and intermittent fevers. Here the fever had to run a certain course, and when we suspended the quinia the fever phenomena reappeared at once. This shows us that we must be careful to continue the antiperiodic until we are sure that the last trace of malaria has disappeared from the system.

The patient is again put upon the use of quinia, is again taking sixteen grains daily. We will keep up this amount for a few days longer, and then lessen the dose to eight grains daily. She is also taking ten-drop doses of muriatic acid occasionally. Her tongue is moist again and rapidly clearing off. We are regulating her food very carefully, and when the bowels become over-costive we shall administer

some mild purgative. I hope that with care and good treatment our patient will soon be all right again.

ORIGINAL COMMUNICATIONS.

THE GROWTH OF THE FUNGUS ASPERGILLUS IN THE HUMAN EAR.*

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THE aspergillei belong to the division of the fungi called arthrospores. In the same division are other important parasitic fungi, viz., the trichophyton, the microsporon, the achorion, and the oïdium.

The aspergillei form a family by themselves, according to Lèveillé, and under the genus aspergillus, Charles Robin enumerates eight species. Some of these species have been found in tuberculous lung, notably in the lungs of birds; but the most interesting species are those which grow in the auditory canal of man.

The fungus aspergillus is not uncommonly found growing in the human ear, where it produces an inflammation of rather a peculiar form. This inflammation is, however, frequently assigned to other causes, and is very often mistaken for simple eczema, which it may accompany or excite.

Doubtless the aspergillus grows often in the ear without being recognized. Hinton, of London, with his enormous field of observation, states that he had not met it, and doubted its existence in denizens of cities. Dr. J. P. Cassells, of Scotland, is the only British writer on the observation of this peculiar aural fungus. Blake, of Boston, thinks it would be much more frequently detected if looked for. It is without doubt often washed from the ear in large masses, and termed wax, by superficial observers. Wreden, of St. Petersburg, who has reported more cases than any other observer,—between sixty and seventy at the last report,—calls the aspergillus the *specific aural fungus*. He claims to have found only two varieties in the ear, the *yellow* and the *black*. The latter is very much more common in its occurrence than the former. Some writers con-

* This paper, accompanied by specimens, both micro- and macroscopic, was read before the Pathological Society of Philadelphia at the regular meeting, April 11, 1878.

sider the aspergillus found in the ear as modified and rendered peculiar by its growth in the ear. Hallier, of Jena, considers aspergillus very similar to penicillium or mould, but that the latter is a larger fungus. One fact is fully established: the aspergillus shows a more marked tendency to grow in the human ear, than any other fungus.

The symptoms of its growth in the ear, and the treatment to be pursued, may be learned from the account of the following cases and specimens:

Specimen No. 1. Aspergillus nigricans.—This specimen of aspergillus was removed from the ear of a young merchant, 28 years old, while on a visit to the Centennial Exhibition, September, 1876. The patient stated that he had felt some slight discomfort, itching, and pain in his left ear several days before he came under my notice. The pain in this case gradually increased, until he was obliged to relinquish all efforts at seeing the Exhibition, and seek medical aid.

On examining the ear in this case, the external auditory canal was found nearly entirely filled with the black mass I here show you. Upon subjecting small portions of this mass to the microscope, the peculiar nature of the offending body was revealed. The entire mass was not removed at the first sitting, as the inner surface of the fungous growth was adherent to the membrana tympani. But after the use of alcohol instillations for twenty-four hours, the masses here exhibited were removed, placed in pure glycerin, and have there remained unchanged until now.

After the fungus was entirely removed from the ear, the meatus and the drum-head were seen to be inflamed; but under the use of diluted alcohol, all remaining spores of aspergillus were destroyed, and the various portions of the ear assumed their normal appearances and functions.

Specimen No. 2. Aspergillus nigricans.—This small specimen of aspergillus nigricans is interesting chiefly on account of a very pertinacious regrowth. The quantity exhibited this evening is small, but represents the size of five or six masses removed successively from the same ear in the course of a week or ten days.

The patient, a wine-merchant of this city, was 67 years of age, strong and well. He could give no explanation as to the probable cause of growth of this parasite in his ear. He had first noted, some weeks before I saw him, a buzzing in his left ear, accompanied by a diminution of hearing and a slight itching pain. A very slight, watery discharge had run from his ear at times since these symptoms were felt. His physician had syringed the ear several times, and had washed out each time a substance, said to be cerumen;

but on account of the recurrence of all of the above-named symptoms the case was deemed worthy of a change of treatment.

There was then detected, deep in the anterior part of the auditory canal, near the membrana tympani, in the angle formed by the latter and the anterior wall of the external auditory canal, the dirty-white mass herewith shown you. Its true nature was discovered by a microscopic examination.

After a thorough cleansing of the ear, instillations of alcohol were applied to the meatus once daily, and the ear syringed regularly thrice daily, whereupon the symptoms of disease abated. With an attack of small furuncles in the canal, there was a recurrence of the aspergillus; but all traces of this annoying parasite, at last, in the course of ten days, disappeared under the use of diluted alcohol (water and alcohol equal parts) and warm water syringing thrice daily. The ear then resumed all its normal functions. This man was the oldest person in whose ear I have found the aspergillus growing. The fungus is not found in the ears of children. It is most likely to affect adults between twenty and forty years of age.

Specimen 3. Aspergillus nigricans.—This large mass of aspergillus nigricans, mycelium, etc., was removed from the left ear of a large, strong Englishman, 35 years old, a wool-carder in one of the mills in the north-eastern part of our city. In this instance there was excited by the presence of the aspergillus in the ear, considerable eczema and some myringitis,—i.e., some inflammation in the outer layer of the drum-head. The case was persistent, as all cases of aspergillus growth are, when accompanied by eczema of the external ear.

The treatment pursued in this case at first was alcohol undiluted, but this proved too stimulating to the eczematous inflammation, and consequently dilute alcohol was substituted, and the syringing of the ear carefully pursued, in order to remove the fungus and its spores.

In this case there were two diseases,—the one, the eczema, dependent on the other, the growth of a vegetable parasite on the skin of the external auditory canal and drum-head. The treatment adapted to destroy the fungus was likely to increase the eczema, and doubtless did make it worse in this case for a time; but as the eczematous disease in such a case is dependent upon the presence of the fungus, the surgeon is justified in adopting and continuing a treatment most likely to destroy the parasite.

Respecting the use of alcohol instillations in the treatment of aspergillus in the ear, it must be borne in mind that all ears do not tolerate the undiluted alcohol, especially if the skin is at all broken. It is safer, therefore, to begin with instillations of equal parts of alcohol and water.

Specimen 4. Aspergillus flavescens removed from the ear of a man some years ago.—The fungus is seen imbedded in fatty matter,—i.e., in oil put into the ear by the patient to relieve the annoyance caused by the growth of the parasite. The chief interest in this case is the opportunity it offers to compare the shape of the sporangia of this variety of aspergillus with those of the other three specimens. It will be seen that the fruit-stalk and head in this case are smaller than in the black variety, and that the sterigmata are wanting around the lower part of the receptaculum. I am not aware that the growth of this variety of aspergillus excites symptoms different from those caused by the growth of the black kind in the ear. (Fig. 3, A.)

The specimens I present this evening illustrate the more common varieties of the aspergillus. The macroscopic appearances of a mass of this fungus, as found in or washed from the ear, are worthy of attention. For although the microscope must in every case decide the presence of aspergillus in a suspicious object coming from the external auditory canal, nevertheless the macroscopic features of such a mass are of such a nature as to lead the surgeon to suspect that he has to deal with a case of aspergillus in the ear. If an ear containing a mass of aspergillus be examined by means of an ear-mirror and ear-funnel, it will present most usually an appearance which will lead to the supposition that the ear is occluded not by wax, but by a foreign matter, which has life, and is hence more or less irritant. Lifeless foreign bodies do no harm to the ear if let alone, but a living foreign object, either animal or vegetable, will invariably excite inflammation sooner or later. If the fungus has not been growing long in the ear, merely a patch of pale yellow pollen-like matter will be detected at the fundus of the auditory canal. This small colony of spores just developing into filaments, for such it is, is usually situate on the membrana tympani, or very near it. In any case, whether the first deposition of spores occurs there or not, the tendency of the aspergillus is to grow over the drum-head first, and from that point it spreads outward, covering the wall of the meatus, until a hollow cast of the canal is formed by the vegetable parasite. This pollen-like appearance is seen only in the very earliest stage of a growth of that which is finally a so-called lardaceous-looking or false membrane, either partially or entirely filling the external auditory canal. If the ear has been invaded by either variety of asper-

gillus, the growing mass has a yellowish or dirty-white appearance. It looks, in fact, like a piece of sodden newspaper, especially if the fungus is old, when it assumes a darkish-brown color in some cases. Sometimes the ear may seem to be plugged with a black substance looking not unlike wool. An inexperienced eye might conclude that the occluding plug thus formed is of hardened ear-wax; but ear-wax is never literally black, nor does it excite the other symptoms of the presence of aspergillus in the ear, viz., pain and inflammation.

A mass of aspergillus does not lose its coherence when subjected to immersion in water or glycerin, but a lump of ordinary hardened cerumen soon melts, and is diffused throughout the water or any other fluid in which it is allowed to lie. This coherence on the part of a mass of aspergillus would distinguish it from one of ear-wax. The microscope would immediately show whether such a mass washed from the ear were aspergillus or the peculiar laminated epithelial plug, the so-called *keratosis obturans* of Wreden.

As a matter of fact, therefore, we do find whitish and decidedly black masses of aspergillus in the human ear, and not uncommonly there are found masses which are in the main whitish, but which are thickly studded with black spots or are as it were stratified with black.

I may say, in passing, that it is claimed by several authorities in Europe, and by some in this country, that varieties of fungi not aspergillus have been found in the human ear; but these are of infrequent occurrence, and would, by their bluish or red color, attract attention and at once decide their nature as not that of ordinary aspergillus. There is, too, a rare form of aspergillus, known as the ascomycete form, i.e., a form which has flourished so completely as to reach the condition of bearing what is known among mycologists as utricular fruit. This form is said by Wreden to have been found only once by him, and to have been of a beautiful dark red color. It is of so rare an occurrence as not to enter into our consideration at present. Dr. J. Orne Green,* of Boston, has described a form of aspergillus rubens, in which the fungus was, as indicated by the name given it by Dr. Green, of a red color.

* Proceedings of Boston Society of Medical Sciences, 1875.

The opportunity of observing the early stages of growth in a colony of aspergillus is of course rare. It can only offer itself where the ear is being examined or treated for some other complaint, since the early stages of growth of aspergillus in the ear excite no subjective symptoms which would lead the patient to seek medical aid. As a rule, in cases of aspergillus the patient seeks relief for hardness of hearing which has come upon him rather suddenly and has been attended by a pricking sensation,—sometimes by considerable pain. The pricking or pain has been followed usually by a slight watery discharge, after which the pain has perhaps ceased, but the hardness of hearing continues. Sometimes the pain attending the growth of aspergillus in the ear is very severe, as it was in the case which furnished the remarkably large, deep-black mass I have shown you this evening, in specimen No. 1.

When upon inspection, such a mass is found in the external auditory canal, the first impulse is, or should be, to syringe the ear with warm water. If spontaneous detachment has occurred, the offending matter can usually be syringed out with ease. In most cases parts of it at least, can be washed out, and furnish, on examination, a more accurate clue to the true nature of the mass, than the mere inspection with the ear-mirror. The aspergillus tends, however, to root itself upon the membrana tympani,—to seek, in fact, the most secluded parts of the ear; and it has been known to pass into the tympanic cavity after having destroyed the membrana tympani, as in a case reported by Politzer. But this is a rare occurrence. So far as my observation goes (extending, as it does, over some twenty cases), spontaneous detachment of the false membrane from the membrana tympani is the tendency in all cases of aspergillus in the ear. Where this does not occur, it must be due to the fact that the membrana tympani is abnormally thin and yields to the grasp of the rootlets of the fungus, thus favoring a tighter hold, or there must have been a cicatrized or partially closed perforation in the drum-head which favors the grip of the aspergillus and aids its entrance into the drum-cavity. I have observed one case of aspergillus growing *in the tympanic cavity*,* though I strongly suspect that the case furnishing the speci-

men of aspergillus shown in Fig. 2 was one in which some of the fungus had invaded the tympanic cavity.

In most cases syringing will remove the major part of the fungous mass at one sitting, but, of course, enough spores will probably be left behind to engender a fresh growth by the next day. Hence it not uncommonly happens, that an ear which has been entirely cleansed, so far as the eye could detect, of what was supposed to be cerumen, is, to the great surprise of the surgeon, filled in a day or two with a plug as large as the one previously washed out. In such cases it will be found that the fresh growth springs from the angle formed by the anterior wall of the auditory canal and the anterior half of the membrana tympani. Here, spores having become deeply rooted, at least continued syringing must be practised to effect their destruction and removal. Both their destruction and removal must be hastened by the instillation of some of the numerous parasitocides. All things considered, I would give the preference to alcohol, either undiluted or in various proportions with water. In one case it seemed that the cure was hastened by insufflation of a powder, composed of equal parts of magnesia and salicylic acid, into the auditory canal, after all macroscopic portions of the fungus had been removed by means of the syringe.

FIG. 1.



Microscopic features.—The microscopic features of the growth of this parasite are varied and full of interest. If a small piece of a colony of aspergillus in the earliest stages of development, be examined under the microscope with a power of about 250 diameters, a picture similar to that in Fig. 1 will be observed. It is in fact the first formation of rootlets or the

* Transactions International Otological Congress, 1876.

mycelial web, from which later the fruit-stalks spring. It will be seen that some of the filaments composing this web tend to become bulbous at one end, and that the latter, as the stem grows, becomes larger and dotted, until finally there is standing out from the dense web of mycelial filaments a perfect fruit-stalk and a fructiferous head, studded with short peg-like limbs on the free ends of which are the spores.

FIG. 2.



The passage of the bulbous stem to the more perfect fructiferous hyphen or fruit-stalk, as these parts are termed by mycologists, can be seen by referring to Fig. 2. All of these stages I have traced in specimens of the fungus removed from the human ear. In the fluid parts of the specimen, epithelium in small quantities may usually be seen, as in the upper left-hand corner of Fig. 2.

Very rapidly the perfect fruit-stalk is found in large numbers and in all stages of development, and the mycelial rootlets will be seen to be coarse and septate. All of

FIG. 3.



these later features may be seen in the same microscopic specimen. On one hand may be seen a well-formed though unripe hyphen or fruit-stalk, while in the centre of the

field or on the other hand may be seen the ripe aerial fruit, from which the fully ripe spores drop literally in myriads. (Fig. 3, C.) The latter rapidly sprout and carry on the processes of development of their luxuriant progenitors.

The characteristic microscopic difference between the two varieties, *yellow* and *black*, is seen in the shape and size of the two parts, the *receptaculum* and *sterigmata*, forming the so-called "head."

In the *Aspergillus nigricans* (Fig. 3, B), the sporangia or heads are distinguished from those of the *A. flavescens* (Fig. 3, A) by the fact that in the first the sterigmata cover the receptaculum on all sides, while in the latter form the lower fifth or fourth of the receptaculum is entirely free from sporangia.*

So far as the size is concerned, it may be said that generally the head in the yellow variety is smaller than in the black aspergillus. The color is not a safe point of differential diagnosis; the names so far as they are based on coloring are almost arbitrary. The color of the various portions of any aspergillus may vary from palest yellow to a blackish or yellowish brown. The microscopic examination of a specimen of aspergillus is aided by subjecting the latter to a drop or two of liq. potassæ.

To sum up, then, it may be said that, in general there are found four distinct elements in specimens of aspergillus taken from the human ear:

1. The mycelial web, composed chiefly of the so-called tubules, filaments, or rootlets.
2. The fruit-stalk or hyphen, and
3. Its head.
4. The free spores.

The first, the filaments or tubular rootlets, are composed of sections, and are hence described as septate. The component cellulæ are from 0.090 mm. to 0.020 mm. in length.

The fertile hyphens or fruit-stalks vary in diameter, the latter being from 0.009 mm. to 0.013 mm.; their length is about 0.770 mm. These terminate in the so-called *receptaculum*, the placenta of Micheli, which has a diameter of 0.028 mm. (Robin).

On this grow the sterigmata and spores, which, together with the receptacle, form the so-called capital or head, 0.060 mm.

* Wreden, Archives of Ophthalmology and Otology, 1874.

in diameter, the third of the elements named above.

The spores are spherical, and measure 0.003 mm. in diameter. By careful fine adjustment of the lens, their surface is seen to be echinate. Some idea of the immense number of these spores in any case may be gained by a knowledge that Pacini, quoted by Robin, estimated that there are nineteen thousand spores on each capital or fruit-head.

Etiology.—It has usually been supposed that the dampness and squalor of the dwellings of the poor have been the fruitful causes of the growth of *aspergillus* in the ear. My experience has led me to a somewhat opposite conclusion, since I have observed more cases of *aspergillus* in the ears of those living in good hygienic surroundings, or even in luxury, than in the poorer classes. It appears, indeed, that *aspergillus* will grow in any ear which has been the seat of a morbid discharge of any kind. Even a scratch, as from the nail or a pin, which leaves behind it a minute quantity of blood, becomes a soil favorable to the growth of *aspergillus*. In fact, any dead animal or vegetable matter, especially if the latter be oleaginous, when left in the external auditory canal, will favor the growth of *aspergillus*. Hence the popular use of oil for various aural maladies is not uncommonly the direct cause of the growth of *aspergillus* in the ear.

Therefore, after any aural disease which has been attended with a morbid excretion, has entirely disappeared, the remnants of the hypersecretion should be washed out and the auditory canal left in a clean state. There is no evidence that the *aspergillus* grows on the natural ceruminous secretion of the auditory canal. It appears, indeed, that but for the presence of the cerumen in the canal, the ear might be invaded more frequently by the *aspergillus*, since the latter seeks a secluded spot for growing. One of the protective functions of cerumen is shown, I think, in the fact that in an ear the canal of which is sheathed with normal ear-wax, *aspergillus* is never found in a flourishing condition, while, in an ear invaded by *aspergillus*, cerumen is rarely if ever found in either a normal quantity or condition.

Treatment.—The treatment of this annoying disease, caused by the growth of *aspergillus* in the ear, and termed *Otomycosis aspergillina*, or *Myringomycosis asper-*

gillina, has already been suggested. It consists chiefly in the entire removal of the fungus and its spores. In this the use of the syringe is the main reliance; but this must be aided by the instillation into the ear of a fluid favorable to the destruction of a vegetable parasite. For the latter purpose rectified spirits of wine, either diluted with water or in full strength, should be employed several times daily, in quantities varying from fifteen to twenty drops. The ear should be carefully examined by means of the ear-mirror and speculum each day, and the treatment modified according to the stages of the disease. The least irritation of the ear, combined with the most effectual mechanical removal of the parasite, will give the most satisfaction to both patient and surgeon.

GASTRIC ULCER.

BY T. D. DAVIS, A.M., M.D.,

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THROUGH the kindness of Dr. J. M. Stevenson, I was present at the post-mortem examination and I am indebted to him for the notes of the following case:

Mrs. J. B., aged 55, widow; mother of six children; always healthy, except habitually constipated. Was called to see her on February 12, 1877. Suffering pain in stomach and flatulence after eating. Had several times vomited a thin, whitish water, which did not smell sour nor appear gluey or ropy. General health not affected. Prescribed for functional disease of stomach consequent on constipation.

February 19.—Reports herself relieved of all pain and vomiting, and feels well. Prescribed a glass of Carlsbad water every morning before breakfast, and care in diet.

July 30.—Had a slight chill, and now some fever. Has had several loose stools, and has voided mucus stained with blood, attended with griping pains and tenesmus. Prescribed for slight dysentery: *magnesiae sulph.*, *acidi sulph. aromatici* et *tr. opii*.

August 3.—Reports herself as feeling entirely well.

January 24, 1878.—Reported through a neighbor that she was again vomiting whitish water. Prescribed bismuth, pepsin, and opium.

January 26.—Reports no relief. On calling to see her, she reports her health as having been fairly good since the attack of dysentery. A good appetite, partaking of the same food as the rest of the family, except fruits and sour things, which swelled her stomach and caused pain; had had no return of vomiting

or pyrosis until the 1st of January. Within the last two weeks could take no solid food, on account of it causing pain. She appears as well nourished as in July, and has no cachexia to indicate organic disease of any nature. Tenderness on pressure over epigastrium. Bowels have not moved for four days. Suffers from thirst. Tongue heavily coated. Prescribed creasote, hydrocyanic acid, and morphia, and ordered enema of castor oil and turpentine.

January 27, 9 A. M.—Vomiting ceased since taking first dose of medicine; but bowels have not moved, although irritating enema was followed by a quart of soapsuds. Enema did not come away. Ordered eight ounces of English black draught, one-third to be taken every four hours, unless bowels moved.

January 27, evening.—Not so well. Enema retained. Abdomen slightly tympanitic. Thirst and nausea, but no vomiting. Expression anxious. Tongue heavily coated with a dirty-yellow fur. Pulse 90; temp. 100½°. Suspected obstruction of the bowel. Ordered hot linseed poultice to abdomen, and a pill of morph. sulph. et ext. belladonnæ ãā gr. ¼, every four hours.

January 28.—Expresses herself as better; free from pain. Had slept several hours. General appearance the same. Tympanitis increased; and more general tenderness over abdomen. Introduced rectum tube, through which the enema slowly flowed away. Carried tube up about twenty inches, when it was arrested; through it, by means of a siphon syringe, injected five pints of warm water, when it began to flow out by side of the tube. Continued pills and poultice.

January 28, evening.—Condition much the same. Enema has not come away. Treatment continued.

January 29, morning.—She feels better. Slept four hours at a time. Pulse 90; temp. 100°. Abdominal distention slightly increased. Tenderness only slight. Great thirst. Bowels not moved. Evening—no change.

January 30, morning.—Feels better. Thinks she voided some flatus. Symptoms all seem more favorable, and indicate a yielding of the obstruction.

January 30, evening.—Patient moribund. They report that about 10 A. M. she asked to be raised up in bed, and drank some mutton broth, when she suddenly became faint, and went into a collapse. Died at 8 P. M.

Autopsy, 19 hours after death.—Body moderately emaciated; rigidity slight. Abdomen prominent and tympanitic. On section, evident peritonitis, but slight and recent. Lymph effused, and gluing more or less tightly intestines and abdominal contents. The small and large intestines to the termination of the transverse colon fully distended with gas, and from this point the descending colon and rectum were collapsed. The obstruction was apparently bands of lymph constricting walls

of colon, but was hardly sufficient to have caused permanent constriction, as on pressure the gas in the upper intestine was forced through. On raising left lobe of liver, a mass of straw-colored lymph was seen, and in the middle of the lesser curvature of the stomach was noticed an oval opening about four lines in diameter, the peritoneal covering having evidently been destroyed for some time, and the contents of stomach having been prevented from escaping by its adhesions to left lobe of the liver. On opening stomach, an elliptical ulcer, about an inch and three-fourths in its long diameter, was found on lesser curvature, corresponding to external opening observed. The walls of ulcer were three-quarters of an inch thick, and adjacent coats of stomach infiltrated with cellular deposit. The stomach opposite ulcer was slightly congested, and the whole calibre of organ apparently diminished in size.

This case is markedly interesting from its negative history, having never arrested especially the attention of patient nor presented any symptoms from which a diagnosis could have been definitely determined. Again, it is interesting from the fact that the adhesions for a time prevented death, and at last caused it. Those forming a new floor prevented extravasation; but those gluing the coils of intestines together, and obstructing their function, caused accumulation of gas and distention of transverse colon and upper intestine, which, by alteration of the relation of the parts, caused the new adhesions of stomach and liver to give way on the patient being raised up.

TRANSLATIONS.

THE ACTIVE PRINCIPLE OF ERGOT.—Theodor Blumberg, in an inaugural dissertation published this year at Dorpat, alludes to previous researches into the active constituent of ergot. Recent investigation had shown this to be extracted by water, but to Dragendorff and Podwissotzky belongs the credit of having isolated the active principle, which is an acid. Earlier investigations had shown the existence in ergot of alkaloid substances. Wenzell found in 1865 two amorphous alkaloids, one of which he called *ecbolin*, the other *ergotin*. In 1875 Tanret described a crystalline alkaloid, to which he gave the name of *ergotin*. Two years later, Podwissotzky found an alkaloid substance as an admixture of the *sclerythin*,

which was distinguished by its active physiological effect. This received the name of *picrosclerotin*. Blumberg has endeavored to ascertain whether the substances called by Wenzell *ecbolin* and *ergotin* are individuals, or whether they are one and the same alkaloid. In addition he has tried to find some method of obtaining *picrosclerotin* in larger quantity, and of isolating *ergotin*. With regard to the first of these points, after considerable investigation, full details of which are given in his dissertation, Blumberg expresses the opinion that *ergotin* and *ecbolin* represent one and the same alkaloid. He also gives at length the methods employed to obtain *picrosclerotin* and *ergotin*, both of which are very easily decomposed.

x.

SEVERE NERVOUS AFFECTION RESULTING FROM A COLLECTION OF WORMS IN THE INTESTINAL CANAL.—Weiss of Neusiedel-am-See sends notes of the following case to the *Wiener Med. Presse*, 1878, No. 12. He was sent for to see a boy of six, whom he found in bed with closed eyes, occasional involuntary movements of the hands towards mouth and nose, the left angle of the mouth somewhat retracted. His face was flushed; the body-temperature increased; sordes upon the lips; the tongue dry and fissured; pupils decidedly dilated; pulse small and frequent; the heart beating violently; breathing short and quick, and occasionally interrupted by a short cough. There were no physical signs of lung-trouble. The abdomen was distended and meteoric; careful palpation showed a somewhat hard nut-sized swelling in the region of the great intestine. From the beginning of the attack there had been more or less constipation, which had been complete during the last four days.

The history was as follows. The boy, previously perfectly healthy, had been ailing for some six or seven weeks. He had lost appetite; had become feverish; changed color from a dusky flush to deadly pale many times through the day; talked in his sleep; complained of pain in the abdomen and head; had an unusually staring look from his eyes. In addition he had suffered nausea without vomiting; coughed occasionally, and picked his nose and mouth. For twenty-two days he had not left his bed. The physicians who had attended the case had taken it for gastric fever, with hydrocephalus, teething, ty-

phoid, etc. Weiss, however, in his account of the case, observes that none of these affections last so long as six to seven weeks. The various symptoms in his opinion pointed to a hyperæsthesia, a reflex excitement of the nervous system, the cause of which in so young a child must be traumatic, mechanical, or parasitic. The decided swelling in the intestine indicated a helminthic trouble in that region; and Weiss, on questioning the child's mother more closely, found that for some months previously he had been ailing on and off, had had "flashes of heat," was occasionally delirious, and sometimes tossed all night on his bed. On learning further that a Viennese professor had cured him of a somewhat similar trouble some time before by the administration of a "laxative tea," Weiss made up his mind as to the proper course to pursue, and ordered at once a mixture containing *santonin*, together with an "anthelmintic plaster" to the stomach externally. A few hours later the child waked from his stupor, and expressed the desire to empty his bowels. Seven passages followed in the course of a few hours, partly composed of compact *fæces*, partly of a brownish fetid fluid, and containing numerous individual worms of the variety *oxyuris vermicularis*. Finally, two whitish balls the size of a pigeon's egg were discharged, composed of mucus compacting together countless worms, which, by their continual wriggling, made the masses move in the fluid in which they floated like living things. The child from this time recovered rapidly, becoming conscious at once, and quite well in a few weeks.

x.

OXIDE OF LEAD IN THE SUBNITRATE OF BISMUTH OF THE SHOPS.—M. Carnot, in a note read before the *Académie des Sciences*, and published in the *Bull. Gén. de Thérap.*, No. 7, 1878, states that in a number of experiments, in which he had used salts of bismuth as reagents, he had found oxide of lead present. This was particularly the case in certain subnitrates of commerce prepared for pharmaceutical use. Wishing to ascertain the extent to which this adulteration prevails, and the proportion of oxide of lead present in a given case, Carnot procured specimens of the subnitrate of bismuth from different well-known establishments, and analyzed them. All presented traces of lead, and some contained a quite notable proportion; so that if the subnitrate were given in doses of from two

to five drachms a day, from one and a half to three grains of oxide of lead would be taken at the same time.

In the same number of the *Bulletin*, M. Bouchut discusses the question, "Is impure subnitrate of bismuth, containing traces of lead, dangerous?" He calls attention to the avidity with which the Parisian press, always on the lookout for a sensation, seizes on such statements as that of Dr. Carnot, and asserts that the proportion of lead mentioned by this gentleman is not sufficient to injure those taking bismuth. Bouchut has never observed any symptoms of lead-poisoning in children, to whom he has given bismuth in amounts as high as 3 to 4 grammes a day (45 to 60 grains), or adults, to whom it has been administered to the amount of 6 to 8 grammes ($1\frac{1}{2}$ to 2 drachms). Others have given as much as 30 grammes (nearly one ounce) daily without injury. Bouchut goes so far as to say that the oxide of lead in reality aids the effect of the subnitrate of bismuth, and says that it is like propylamin, which when it was first used was impure and ammoniacal and was found useful in rheumatism; when, however, the pharmacutists got to making it perfectly pure, it no longer did any good, and was abandoned. (The impurity of nitrate of bismuth which gives most anxiety is arsenic, to which, however, Bouchut and Carnot make no allusion.—TRANS.) x.

ACUTE ATROPHY OF THE LIVER IN AN INFANT.—Prof. H. Senator (*Wien. Med. Presse*, 1878, No. 17) received into the hospital an infant of eight months, whose mother gave the following history. Five weeks previously, the child had fallen on its head, and remained unconscious for a time, but had soon recovered and had remained well for three weeks. At the end of that time the stools became pale and discolored, and a week later the infant was feverish, became yellow, and vomited; the stools afterwards being yellow or green, and not particularly fluid. On examination the child appeared well nourished, decidedly icteric, very restless. The abdomen was prominent, and the liver was decidedly enlarged, dulness beginning in the right mammillary line, at the fourth intercostal space, and reaching six centimetres beyond the border of the ribs. To the left, dulness extended four centimetres beyond the middle line. The surface of the liver was smooth. The spleen also

was decidedly enlarged, but not tender. Pulse, 100–112; temperature, 104.2° F. In the course of the next day or two but little change took place in the patient's condition. She drank frequently and greedily, dozed, and moaned and whispered without crying aloud. Retching, but no vomiting; stools nearly normal. Treatment, cold compresses to the abdomen and head, and, as the temperature continued high, hypodermic injections of one-sixth of a grain of chloride of quinine. The infant was nourished upon fresh cow's milk alone. Three days later she was somewhat collapsed, pale, but decidedly icteric; swallowing seemed difficult; liver and spleen were still palpable and unchanged, or slightly less prominent; urine could not be collected, it stained the sheets darkly. Four days after admission to the hospital the child became entirely collapsed, the liver was markedly lessened in size, and in the evening death supervened. The diagnosis of the case during life had presented some difficulty, especially in connection with the history of a fall. Symptoms of abscess of the liver, of catarrhal icterus, of icterus gravis, and of phosphorus poisoning presented themselves. The rapid decrease in size of the liver, during the few days while the patient remained under observation, decided the diagnosis in favor of acute atrophy. Post-mortem examination showed the liver twelve centimetres long, nine wide, and three thick. Its surface was brownish-red, and showed numerous yellow patches, some as large as a dime, chiefly on the left lobe, raised somewhat above the general surface. Section showed the same appearances. The gall-bladder contained a small quantity of green mucus. The spleen was enlarged, smooth, not containing much blood, follicles prominent. Kidneys somewhat enlarged, fatty. Bladder empty. Other organs, except the lungs, which were slightly atelectatic at the base, healthy. Microscopic examination showed fatty degeneration and atrophy of the liver-cells in the yellow portions, while the cells of the liver appeared healthy. The case, therefore, was one of those unusual instances in which atrophy is preceded by enlargement of the liver with retention of bile, cases which, if atrophy is not detected, are called "typhoid icterus." Senator concludes the report of the case with bibliographical references. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JUNE 22, 1878.

EDITORIAL.

MEDICAL EDUCATION.

THE Pennsylvania State Medical Society passed, at the late meeting in Pittsburgh, a series of resolutions which it seems possible to enforce, and which strike at one of the tap-roots of the wretched system of medical education, hitherto so prevalent. One resolution *recommends* the members of the State Medical Society to send their students to those colleges which give a three years' course of study. This resolution carries, of course, great moral force, but was not intended to do more. It is otherwise with the one which *directs* the various county medical societies to appoint examining committees, before whom any person desirous of studying medicine may appear, in order to prove the possession of a sufficient English education, and forbids any member to receive a student who has not a proper certificate from such committee.

It appears that such a system has been in vogue in Allegheny County for many years, and has not only been found to have no serious practical objections, but to be actively powerful for good. It is asserted to have produced a very great improvement in the average culture of medical students. The societies of Mercer County in the west and of Delaware County in the east of the State have recently adopted a similar procedure, and appear to be in earnest in enforcing obedience. It now becomes the duty of every county society to do likewise; and we hope that some one—and who better than the committee that suggested the resolution lately passed?—will watch the various county societies, and report at the meeting of

the State Society next year in Chester what counties have and what have not complied with the instructions of the State. A steady pressure of opinion kept up for a few years would drive most delinquents into line, and the refusal to allow representation of an indifferent or actively refractory county society would soon coerce the small remainder.

HIGHER SCHOOL FOR THE BLIND.

IF our information be correct, there are in England two private schools for the blind, in which is given a training in the higher branches parallel to that afforded more fortunate "seeing people" in such schools as Eton. In this country the difficulties in the way of mind-cultivation for those having no eyesight have been almost insuperable. The only book of the character used in universities which has been printed in raised type, so far as we know, is a portion of the *Æneid*, and no special schools for the higher instruction of the blind have hitherto existed on this continent. Mr. John F. Maher, who has struggled over all obstacles and graduated in the scientific department of the University of Pennsylvania, having had several years' experience in preparing "seeing persons" for college, proposes to establish an academy for the education of the blind. He has the endorsement of the University authorities, and appears to be eminently fitted for this special task. We commend his undertaking as meeting a want which perhaps is not very common, but which when it exists is very pressing. Communications sent to the University of Pennsylvania, or to 1319 Chestnut Street, Philadelphia, will reach Mr. Maher.

ARSENIC AS A PREVENTIVE OF BROMIC ACNE.—Dr. Bartholow points out that bromic acne may be, in part at least, prevented by the conjoined administration of arsenic, in the form of Fowler's solution, three to five minims thrice daily.

CORRESPONDENCE.

THE AMERICAN MEDICAL ASSOCIATION.

THE twenty-ninth annual session of the American Medical Association was held at Buffalo, New York, June 4 to 7 inclusive. About six hundred delegates and members by invitation were in attendance, representing all sections of the country. Several delegates were also present from the Canada Medical Association. The interest of the meetings was well sustained; a full attendance in the Sections was secured by the presentation of papers of unusual merit, and the discussions were spirited and instructive. No question of paramount importance, such as the capture of the Pharmacopœia, being introduced to serve as a bone of contention, the routine business was transacted with a quiet dignity in strong contrast with some of the turbulent scenes witnessed, within the memory of many of the original members, at the early meetings of the body. The harmony prevailing in the deliberations was well supplemented by the pleasant intercourse in the several entertainments and receptions, which were generally enjoyed. The credit of the success of this meeting rests largely with the Committee of Arrangements, of which Prof. T. F. Rochester was chairman, and with the Committee of Entertainment, whose chairman was Prof. Jas. P. White.

GENERAL SESSIONS.

Prof. T. G. Richardson, the president of the Association, in his annual address dwelt at some length upon the need of elevating the standard for graduation in our medical schools, and suggested some useful reforms in medical teaching and in State medicine. He referred in terms of commendation and pride to the recent action of the Medical Department of the University of Pennsylvania in adopting a graded course and extending the period of study, in company with Harvard and the Chicago Medical School. He urged the individual members to aid the efforts of the Association in the cause of higher medical education, thus enabling it to exert a more positive and powerful influence in favor of improved methods and a more elevated standard, until a healthy public professional opinion upon the subject should bring so strong a pressure to bear upon the other medical colleges as to compel them all to enter into the current of reformation.

In order to further this plan, and bring the American Medical Association into intimate relationship with the great mass of the profession, the necessity of a more thorough organization of the State, County, and District Societies was insisted upon.

The incorporation of the American Medical Association was strongly advocated. He

further suggested that original investigation in the Association should be encouraged by the annual offer of prizes, and detailed a scheme by which this might be accomplished.

The benefits of State medicine were dwelt upon, and the imperfect manner in which hygiene and forensic medicine are now taught in our colleges, condemned. In this connection, the organization was advised of a National Council of Health, to be composed of members from every State in the Union, whose presiding officer should be the peer of the Secretaries of State, War, and Finance. The establishment of sanitary police, the regulation of quarantine, and the suggestions for sanitary legislation, would be a few of its functions. A dissemination of knowledge of hygienic law in the community is much needed: the hope of progress in State Medicine lies in the education of the people.

The recommendations in the address were referred to a committee composed of the president and his four immediate predecessors, to report at the next meeting.

A paper by Dr. E. Seguin, of New York, on the "Intervention of Physicians in Education," referred to the almost universal violation of hygienic law in the building and government of the public schools, and urged that greater interest should be taken in the matter by physicians. This topic, after full discussion in the Section on State Medicine, was deemed of such importance that Dr. Frank H. Hamilton, of New York, was requested to present it before the general session. This done, the following was adopted:

"Resolved, That, in the opinion of this Association, medical men ought to have a voice in the construction and location of public-school buildings, in the question as to the age at which children should be admitted, the hours of study, and the general management of these institutions. And to this end it is believed to be necessary that one or more intelligent physicians should be placed upon boards of education, boards of trustees, and upon other similar boards having the control of public education and schools."

In the report of the delegation to the International Medical Congress at Geneva the adoption of uniform methods of recording the results of observation and experiment was urged.

The conclusions of the Congress were summed up by Dr. E. Seguin, the reporter, as follows:

"For physicians and surgeons, the principle accepted by the Congress is a gradual international uniformity of their nomenclatures, scales, measures, calibres of instruments, of their records of private and hospital practice, of physiological experiments, of medical climatology, barometry, thermometry, statistics, etc.

"In pharmacy the Congress of Geneva has accepted the conclusions voted at St. Peters-

burg and Brussels, as presented by Professors Gille and Matsen :

"1st. The adoption of a universal pharmacopœia, to be written in Latin.

"2d. The decimal system for weights and measures, and the centigrade scale for temperatures.

"3d. A uniform nomenclature (probably that of Berzelius).

"4th. The chemical preparations to be of determined strength and purity ; and the pure drugs to be of essayed strength, if possible.

"5th. The Galenic preparations made as simple as possible, and described according to a uniform plan.

"6th. The other pharmaceutical preparations to be made uniform,—that is, those which are powerful, like *tinctura opii*, *aconite*, *nux vomica*, *hashisch*, *podophyllin*, *elaterium*, etc.

"7th. Physicians to be left free and responsible for the non-official ingredients and doses of their magistral prescriptions.

"At its last meeting, the Congress of Geneva nominated a commission charged to bring these matters to a practical maturity for acceptance by the profession at large, and to the sanction of the next International Medical Congress."

The report was signed by Marion Sims, Thomas Drysdale, and Edward Seguin, delegates to the Congress, appointed at the last meeting to represent the American Medical Association. By a resolution this commission was continued to present a report upon medical uniformity in Europe at the next meeting.

The committee for the organization of State boards of health was also continued. The Secretary reported that nineteen have thus far been established. The following is from the President's address :

"State Boards of Health have been established in the following nineteen of the thirty-nine States, and in the District of Columbia, at the dates following, viz. :

Alabama.....	1875	Massachusetts.....	1869
California.....	1870	Michigan.....	1873
Colorado.....	1876	Minnesota.....	1872
Connecticut.....	1876	Mississippi.....	1877
District of Columbia.....	1871	New Jersey.....	1877
Georgia.....	1875	North Carolina.....	1877
Illinois.....	1877	Rhode Island.....	1878
Kentucky.....	1878	Tennessee.....	1877
Louisiana.....	1870	Virginia.....	1871
Maryland.....	1874	Wisconsin.....	1876

A communication was received from the Pennsylvania State Medical Society, containing resolutions recommending the adoption of the metric system.

The Committee on Necrology presenting a voluminous report, a resolution was adopted instructing the committee to restrict the notices hereafter to members of the Society in good standing at the time of death.

Upon the recommendation of the Section on Medical Jurisprudence, Chemistry, and Psychology, a series of resolutions was passed,

asserting the necessity of judicious personal restraint in the treatment of insanity, acknowledging the natural right of such cases to home treatment, and declaring that the restraint incident thereto is not a violation of legal rights or of personal liberty, but such restraint should always be subject to State surveillance and limitation.

Upon motion of Dr. Scott, of Ohio, a new Section was created for Ophthalmology, Otolaryngology, Dr. Herman Knapp, of New York, being appointed chairman, and Dr. Scott secretary. It was also proposed, and laid over under the rule to the next meeting, to institute Sections on Neurology and Electrology ; and on Diseases of the Genito-Urinary Organs, including Dermatology and Syphilis.

On motion of Dr. Bell, of New York, the following was also proposed :

"*Resolved*, That Section IV., on Medical Jurisprudence and Psychology, and Section V., on State Medicine and Public Hygiene, be consolidated into one section as Section IV."

Being an amendment, action was deferred until next year.

A protest was preferred against a delegate from Michigan, charging him with assisting in the instruction of homœopathic students. The Judicial Council failing to find any specific provision to forbid this in the Code, a resolution was passed, requesting the preparation of an amendment which should in future prevent this violation of its spirit. Such an amendment was subsequently presented, and laid over until next meeting. Two delegates from the Ann Arbor Society were admitted.

The president announced the appointment of the following delegates :

To European Medical Societies.—Drs. Sims, Drysdale, Seguin, Daly, Halberstadt, Levis, and W. H. Pancoast.

To Canada Medical Association.—Drs. Brodie, Todd, E. N. Brush, and W. Clarke.

The Committee on Prize Essays recommended that both prizes should be awarded for one essay, upon the surgical relations of the carotid, subclavian, and innominate arteries, presented by Dr. John A. Wyeth, of New York. The decision of the committee was received with applause.

Resolutions were offered by Dr. J. M. Toner in memoriam of the late Prof. Henry, which were unanimously adopted.

The addresses upon the progress of medicine were delivered in the general session as follows :

Prof. Henry H. Smith, of Philadelphia, chairman of the Section on Surgery and Anatomy, selected for his theme "Certain Points in the Pathology of the Bones, especially Tubercle." And in this connection he considered the influence of the bone-marrow on the constitution of the blood.

This paper was concluded in the Section on Surgery.

Dr. E. W. Jenks, of Detroit, of the Section on Obstetrics, etc., discussed the "Causes of Sudden Death in Puerperal Women."

Dr. A. L. Loomis, of New York, of the Section on Practical Medicine, reviewed the advance in his department, and particularly referred to the climatic treatment of pulmonary phthisis and the establishment of sanatoria for consumptives; and recommended the general utilization of our mineral springs.

In order to consider these recommendations, a committee was appointed, consisting of Drs. H. I. Bowditch, of Harvard; A. N. Bell, of New York; J. L. Cabell, of Virginia; S. E. Chailé, of Louisiana; and Charles Denison, of Colorado.

Prof. J. L. Cabell, of the University of Virginia, chairman of the Section on State Medicine, delivered a most interesting address upon State Medicine and Public Hygiene, discussing the methods of preventing the spread of contagious diseases, and the theory of a *contagium vivum*.

The chairman of the Section on Medical Jurisprudence, Chemistry, and Psychology, Dr. Walter Kempster, of Oshkosh, Wisconsin, in his address, favored the theory of the localization of impressions in the brain, and stated that he had always found definite changes in cases of general paralysis.

Prof. Jas. P. White, of Buffalo, offered the following:

"Resolved, That a committee of five be appointed to confer with General Myer upon the subject of making observations as to the existence of ozone in various localities; and to take such other steps and measures in the matter as may be necessary for the success of the object."

This was adopted, and the committee appointed by the President consisted of N. S. Davis, Illinois; J. S. Billings, U.S.A.; W. N. Giddings, South Carolina; J. M. Toner, Washington; and S. M. Bemis, Louisiana.

A few female delegates were present.

Report of Committee on Nominations.

The Committee on Nominations presented the following report, which was unanimously adopted:

President.—Theophilus Parvin, M.D., of Indianapolis.

Vice-Presidents.—A. J. Fuller, of Maine; W. F. Westmoreland, of Georgia; John Morris, M.D., of Maryland; John H. Murphy, M.D., of Minnesota.

Treasurer.—Richard J. Dunglison, M.D., of Philadelphia.

Librarian.—Wm. Lee, M.D., of District of Columbia.

Committee on Library.—John Eliot, M.D., of District of Columbia.

Committee of Arrangements.—J. P. Logan, M.D., Chairman.

Committee on Necrology.—J. M. Toner, M.D., of Washington, Chairman.

Next place of meeting, Atlanta, Georgia. Time of meeting, the first Tuesday in May, 1879.

THE SECTIONS.

The papers read before the Sections were, with very few exceptions, contributions of value to the special departments. It is impossible in a condensed report to do justice to all, but some of them were of such unusual merit as to deserve to be mentioned as special features of the session. Among these we notice the paper of Dr. Theophilus Parvin, read before the Section on Obstetrics and Diseases of Women and Children, entitled "Ovotomy." In this paper the merits of laparo-elytrotomy, the operation recommended by Dr. Thomas, of New York, for the relief of cases at term with narrow pelvis, were thoroughly discussed, and, after comparing it with the results obtained by Cæsarean section, a preference was expressed for the latter operation. The paper gave evidence of much research, and contained an exhaustive bibliography of the subject, for which the lecturer had freely used the library of the Surgeon-General's office at Washington.

Dr. Henry H. Smith concluded his address before the session by a practical demonstration, freely illustrated by diagrams, of certain points in the pathology of the bones, especially tubercle, in which he defended the essentially tubercular nature of Pott's disease and coxalgia.

"The Study of an Epidemic of Diphtheria which prevailed at Ferrisburg (adjacent to Vergennes), Vermont, during the summer of 1877," by Prof. Henry I. Bowditch, showed the manner in which a medical philosopher spent a summer vacation. Hearing of an epidemic of diphtheria near Lake Champlain, where he was staying, Prof. Bowditch proceeded to the spot and studied its history and course with such diligence that he was enabled to present what was pronounced in the discussion to be one of the most complete and satisfactory studies of an epidemic of diphtheria that has ever been recorded. He considered that the facts warrant the treatment of a case—or an epidemic—of diphtheria with the same regard for the danger of inoculation that should be exercised in the treatment of scarlet fever or smallpox, although it is contagious to a less degree. He regarded the occurrence of diphtheria in the course of croup as an accident. Diphtheria cannot be properly termed, at any time in its history, a purely local disease.

Among the practical suggestions we notice particularly "Tracheotomy without Tubes," by Dr. Henry A. Martin, of Boston. He regards tubes as entirely useless, and performs the operation as follows. After making the incision in the usual manner, down to and through the trachea, he introduces a central stitch in

each edge of the wound through the tissues, including the trachea; this is loosely tied so as to form a loop, through which a long strip of adhesive plaster is passed, upon which very slight traction is made, the plaster being crossed at the back of the neck. Unless the traction be too strong, the loops will not cut through for two or three weeks; but he had generally been able to remove them in one week. The wound heals readily. He reported nine cases of this operation, which had been found perfectly satisfactory in the hands of all who had tried it. Attention to the after-treatment, by properly-regulated temperature and moisture, was insisted upon.

Dr. Ephraim Cutter, of Boston, made a verbal report upon the treatment of uterine fibroids by electrolysis.* He uses strong bayonet-shaped needles with firm handles. The poles are thrust into the tumor through the abdominal wall. He had, with Dr. Gilman Kimball, of Lowell, used this method in more than fifty cases, and highly recommended the operation. Mild constant currents should only be used, the sittings to last but from five to fifteen minutes. The operation is not devoid of danger, and rest in bed for several days should be strictly enjoined. He had lost one patient from getting out of bed on the second day.

Dr. John C. Irish presented a report of "Fifteen Cases of Extirpation of the Uterus for Fibroid Growths," in the practice of Dr. Burnham of Lowell, with over twenty per cent. of recoveries.

Dr. Storer regarded the procedure as one of necessity and not of election, but had been able to save two patients out of seven.

Dr. Engleman, of St. Louis, reviewed "Battey's Operation for Extirpation of the Ovaries," and pronounced the vaginal operation unsatisfactory, imperfect, and more dangerous than the ordinary abdominal section for ovariectomy.

In connection with the prevailing tendency to the practice of specialties, the paper of Dr. Levi F. Warren upon the "Connection of the Hepatic Function with Uterine Hyperæmias, Fluxions, Congestions, and Inflammations" was very suggestive. It contained a report of a number of cases of uterine complaints due to general conditions, which were relieved by appropriate treatment without any local applications. The paper was well received as a protest against the tendency to the exclusive practice of specialism.

Dr. John H. Packard read a paper on "Fractures near the Wrist Joint," in which he stated that he had never seen a fracture that corresponded with Dr. Barton's classical description. The comminution, which is secondary, always involves the posterior part of the lower fragment, and is produced by the driving of the upper into the lower

fragment after its displacement backwards. Treatment is by reduction, retention in position, early passive motion, and freedom of hand.

Dr. Moore, of Rochester, opposed the views of Dr. Packard.

Dr. Robert Burns, of Frankford, Philadelphia, read the history of a case of conservative surgery, where there was a fracture of the humerus and forearm with protrusion and laceration, which recovered, with a useful arm, by means of the wire-basket splint and carbolized lotions.

The identity of certain cases of so-called struma and inherited syphilis was insisted upon in a paper presented by Horatio R. Storer, of Newport, R.I., on the "Frequently Gynæcological Origin of Inherited Forms of Strumous Disease, and the Consequent Indications for Treatment."

Several interesting specimens were exhibited. Dr. Thomas F. Rochester presented a specimen of separation of the continuity of the ileum with spontaneous occlusion of its divided extremities. The patient died with symptoms of intussusception. The closure was complete.

Dr. Julius F. Miner showed a specimen of a thyroid growth, in the removal of which the entire gland was supposed to have been extirpated. A patient was also presented in whom a large goitre was said, by Dr. C. N. Palmer, of New York, to have been cured by the subcutaneous injection of thirty minims of extract of ergot. Drs. Blackwood and O'Hara, of Philadelphia, reported similar cases.

In the general session, Dr. Sayre, of New York, requested and obtained permission to have the order of business suspended, in order that the secretary might record his dissent from the opinion expressed in a resolution passed at the last meeting in regard to shortening after fracture. In the afternoon the following preamble and resolution was adopted by the Section on Surgery, on motion of Dr. Gunn, of Chicago:

"Whereas, This Section having expressed an opinion upon the results of fractures of long bones, and,

"Whereas, In general convention a member has asked and been accorded the privilege of recording his protesting vote; therefore

"Resolved, That this Section reaffirms its opinion that shortening, in cases of fractures of the long bones, is the rule in practice, regardless of any of the means of treatment now in use."

Dr. Munson, of New York, exhibited an improved "quill" for perineorrhaphy. Dr. Marcy, of Cambridge, presented a flexible uterine sound termed an "indicator," from the fact that when one end is bent the other curves equally in the opposite direction by the action of a spring in the interior, thus showing the direction and amount of flexion

* For the complete report, see American Journal of the Medical Sciences for July, 1878.

of the uterine canal immediately upon its introduction. (Made by Codman & Shurtleff, Boston.)

THE ENTERTAINMENTS.

A most interesting lecture on the "Morphology of the Blood in Syphilis," illustrated by the camera, was given in the evening by Dr. Ephraim Cutter, of Boston. While not entirely endorsing Losterfer's views (which were partly erroneous from the fact that his conclusions had been drawn from old specimens), Dr. Cutter was convinced that in the fresh blood of syphilitic patients, certain cryptogamic forms exist which are characteristic of the disease. The white blood-corpuscle is enlarged, and contains new features which are also recognized as structures of low organic life. These were beautifully shown in the micro-photographs exhibited on the screen.

The social entertainments were very successful. Receptions were given by the Buffalo Club; the Academies of Fine Arts and of Natural Sciences were thrown open, and a reception was held at the house of Prof. James P. White. Previous to Dr. White's reception, a lawn-party was given by Mr. B. C. Rumsey, which was an agreeable surprise. The residence was surrounded by large well-shaded grounds, with winding paths, terraces, summer-houses, a fountain, and an artificial lake. At nightfall the grounds were illuminated by hundreds of Chinese lanterns of different devices, and colored lights were burned at intervals with charming effect.

On the afternoon of the last day of the session an excursion to Niagara Falls was given by the profession of Erie County and a few prominent citizens, *via* the Canada Southern Railroad. A grand supper at the International Hotel at the Falls concluded the entertainment, after which the members separated, each going to his own place, but carrying with him a lasting impression of the attractions of the "Queen City of the Lakes," and the hospitality of her citizens. W.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 28, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Discussion of the specimens presented by Dr. E. O. SHAKESPEARE, February 14, 1878.

DR. GUITÉRAS said he should have presented at the last meeting a specimen of thrombosis of the pulmonary artery, with small areas of catarrhal pneumonia. The subject is sufficiently related to that of the present discussion to be considered to-night. A middle-aged woman was admitted to the wards of the

Philadelphia Hospital suffering with capillary bronchitis. Careful percussion demonstrated the existence of small patches of consolidation at the right apex. She died of apnœa three or four days later. The symptoms of bronchial obstruction had diminished, but the pulse was very feeble and frequent. She did not die of œdema of the lungs. The autopsy revealed the existence of the lesions diagnosed. The lobules consolidated were four or five, and scattered. The catarrhal consolidation was very recent. The right heart was distended with blood. The clot was not large, but when traced into the branches of the pulmonary artery it lost its chicken-fat appearance, and became of marbled-gray and black color, and rotten and friable. He discovered no disease of the walls of the pulmonary artery.

Dr. Alibut has recently advanced a very ingenious theory to explain the symptoms of uræmic asthma. He suggests a state of spasm of the pulmonary arterial system; so that the dyspnœa, he thinks, is due to the failure of the blood to reach the air, and not to any obstruction to the movements of the latter. Dr. G. suggested the adaptation of this theory to his case, and he called attention to this point, because it is very possible that this condition of thrombosis and consequent dyspnœa resulting from a deficient supply of blood to the air-vesicles is frequently overlooked.

On the same day of this post-mortem he was called in consultation to a case of membranous croup. After many hours of dyspnœa and cyanosis, the child died, without one single râle of œdema of the lung making its appearance. He should say also that there were no evidences of blood-poisoning; he meant no diphtheria.

In regard to the specimens before the Society, he desired to call attention to their significance, as they illustrate beautifully the two forms of emboli that Cohnheim has studied so well. In the one case we have the mechanical embolus, with hemorrhagic infarctus of the area supplied by the vessel; in the other we have the infectious embolus, with abscess of the surrounding tissue. There are few observations in pathology less subject to exceptions than this: that the mechanical obstruction of a pulmonary artery never causes suppuration, and seldom gangrene of the parts beyond, and that an infectious plug will set up a suppurative process; in the latter case, from the nature of the process, a more or less spherical accumulation of pus is the result; in the other, a wedge-shaped infarctus.

It is a curious fact that a stoppage of the flow of blood in an artery should cause hyperæmia and hemorrhage of the parts beyond. Ludwig suggests that the obstruction is not complete, and that the slowing of the circulation in the capillaries causes the blood-corpuscles to aggregate, so that a terminal obstruction is produced; the further ingress of

blood, in spite of the embolus, increases the tension, and a rupture supervenes. Cohnheim thinks that the congestion is due to a back flow of blood from the pulmonary veins, the pressure in the arterial side having been reduced to a minimum by the embolus. Cohnheim objects to introducing the anastomoses with the bronchial arteries as an element in this hemorrhagic process. This is a theory that had occurred to him (Dr. G.), and he was not willing to give it up. The anastomoses between these two sets of vessels are terminal in position and capillary in character. It is upon the latter fact, viz., their size, that Cohnheim establishes his objection. He (Dr. G.) failed to see sufficient tension in the backward flow to rupture the vessels and cause the hemorrhage. The blood in the bronchial arteries is under greater tension, which probably widens the channels to establish a collateral circulation in the affected part. It must be remembered also that this blood forced into these vessels is not the blood that they are adapted for; it is arterial blood; hence another source of hemorrhage, that will remind us of the numerous hemorrhagic spots found in the lung after transfusion of arterial blood.

Dr. G. said that no one who had had opportunity of observing cases of mechanical emboli could fail to observe the absence of suppuration in these cases, no matter what the condition of the patient was; often, in fact, very much broken down in the last stages of cardiac cachexia. The interesting fact mentioned by Dr. Norris, of the early conical shape of infectious infarctions, only proved that the plug acted mechanically before exerting any specific influence. In such cases Cohnheim even maintains that there must have been two emboli. He could not say that the dyspnoea in his case was all due to the thrombosis; but the symptoms of bronchitis (physical signs) had improved, and the autopsy did not show much obstruction in the tubes. The patches of catarrhal pneumonia were so small that they were undetected at first.

He agreed with Dr. Shakespeare that very few cases of obstruction of the pulmonary artery had been studied in the light of the modern ideas about tuberculosis. In fact, it is difficult to determine from the accounts of authors whether the phthisis observed in such cases is tubercular or not. He believed that there was no doubt as to the fact that ischæmia favored the development of those slow processes that led to destruction of pulmonary tissue. Hence their frequency at the apices of the lung, and the truth of the theory advanced by Peter, viz., that phthisis is rare in disease of the left heart, because, the dependent portions of the lung being in a state of constant engorgement and comparatively inactive, the upper portions are, of course, the seat of a compensatory activity.

Dr. NANCREDE remarked, with regard to the shape of the infarction, that he thought we looked too much in a pathological way—or, if he might term it so, in too mechanical a way—at this subject. In the present cases he thought that we could see triangular infarcts in the pyæmic case and rounded ones in the embolic one, thus showing that the rule was not at all an absolute one. The consideration of the systemic condition was too much overlooked. The present specimens, it seemed to him, bore out this view. In the pyæmic one we have a man suffering from several severe injuries,—one of them of the skull and brain,—with suppuration lasting several weeks, his system broken down and prone to suppurative trouble. Now, inflict any kind of injury upon his lung, and suppuration would be likely to ensue. If any surgeon were unwise enough to amputate a limb during the course of pyæmia, would he have any healing occurring? Quite the reverse; he would only encounter unhealthy suppuration. Again, in the embolic specimen we have a case in perfect health, comparatively speaking, whose lungs are suddenly extensively plugged. What is the result here? Manifestly such an interference with the functions of organs essential to life that death results before suppuration has had time to occur. Dr. N. believed that if time were allowed, mechanical emboli would cause suppuration in certain cases. The reason it is not seen is that where extensive enough to allow us a post-mortem examination, death is rapidly produced by overwhelming injury to a vital organ. He had risen with diffidence to express opinions in any degree opposed to the authorities quoted, but he must protest against the one-sided, mechanical, and as he thought, in consequence, unscientific way in which the problems of disease were nowadays treated.

Dr. W. F. NORRIS said, in reference to the form of the abscesses, that it had been his lot to see many such cases while in the army, and he thought the shape of the patches was due to the stage of the disease when the post-mortem was made. The majority are found near the surface of the lung, and in the early stages are wedge-shaped, with the base presenting outwards. It is usual to find in the same organ several such patches in different stages of development, and there is a tendency to become round when suppuration takes place. He had, however, seen infarctions which had already the greenish-yellow hue of pus, and were almost ready to lose their solid consistence, still retaining their pyramidal form.

Dr. HENRY thought that, in attempting to account for the presence or absence of suppuration in cases of embolic pneumonia, constitutional conditions were not to be excluded. The influence of cardiac disease upon inflammatory processes in the lungs is universally

admitted, but it is perhaps not so well known that this influence may extend to other processes. According to Lebert, there is in congenital stenosis of the pulmonary artery a remarkable predisposition to the deposit of miliary tubercle in the lung; while in venous stasis dependent upon mitral disease, miliary tubercle is so rare that this form of cardiac disease is regarded by some as inimical to its deposit. If, therefore, cardiac disease can so powerfully and variously influence morbid processes in the lung, it is highly probable that other conditions of the system affecting the circulation may have similar though less powerful effects.

Dr. HENRY remarked that if Dr. Guitéras intended to signify that there was an *arterial* anastomosis between the bronchial and pulmonary arteries on the distal side of the points of infarction, he could not agree with him in the idea that such an anastomosis would favor the morbid process. In his opinion it would have precisely the contrary effect, by favoring the return venous circulation. Cohnheim's theory of infarction applies exclusively to *terminal* arteries, that is, to an artery, or rather to a portion of an artery, beyond which there is nothing but capillary vessels.

Dr. SHAKESPEARE thought with Dr. Guitéras that the explanation of sudden dyspnoea occurring in other states besides that existing in so-called uræmic asthma might not infrequently be found in an obstruction, embolic or otherwise, to the free course of the blood in the branches of the pulmonary arteries, rather than in an impediment to the air in its passages,—a failure of the required quantity of blood to reach the air at the proper place, rather than the curtailment of a necessary supply of air.

He could not, however, agree with Dr. Guitéras in the support which the latter had given to the opinion advanced and defended by Rindfleisch, that the bronchial artery through its sparse capillary anastomosis with the small branches of the pulmonary artery furnishes the blood which engorges the area of infarction. He was constrained to think that the objections which Cohnheim had raised against this hypothesis were conclusive and insurmountable. Not only is the anastomosis relied upon by Rindfleisch extremely limited, but it is mainly of a capillary nature; and so far as the small terminal branches of the pulmonary artery are concerned, it can scarcely be said to exist at all. It is just in these small terminal branches where the embolus which gives rise to the infarction usually lodges. So that in many cases, if not indeed in the majority, it is not probable that even this very sparse capillary anastomosis can be said to exist. An arterial communication is generally out of the question; but were the anastomosis to be of that character, *a priori*, it would seem that

there could then be no infarction, or at least only a very minute one, if any at all. As to this point he therefore coincided with Dr. Henry. He endorsed in general the conclusions as to the course and modus of an infarction, reached by Cohnheim after a thorough experimental study of the subject; and in particular the regurgitation of blood from the venules connected with the capillary radicles of the obstructed artery as a competent cause of the engorgement and extravasation of blood in the infarcted area.

Dr. S. also admitted that in our study of the embolic processes we should not overlook general conditions any more perhaps than we should neglect them while examining any other morbid process. One cannot deny a very important influence to the action of the heart and the state of the blood in modifying or even originating morbid processes in different parts of the lungs. The observation by Peter, of the extreme rarity of phthisis pulmonum where disease of the left heart, resulting in mitral regurgitation, had previously existed, quoted by Dr. Guitéras, and the declaration of Lebert, that in congenital stenosis of the pulmonary artery there is a remarkable predisposition to the formation of tubercle in the lung, instanced by Dr. Henry, are extremely forcible reminders of that important influence. Nay, more, they may even be regarded as the finger-posts which point towards the cause and the cure of this fatal "ill which flesh is heir to." Men may question, as often as their liver or spleen may prompt them, the practical utility and value of pathological research. Although the nature of tuberculosis is only to be read to-day through the veil of many lingering clouds which must be removed, and the study of that nature has been and still is one of the most difficult and complicated in the whole field of pathology, yet, thanks to the investigations of the pathologist alone, besides many other points in its natural history which have been settled, it has been demonstrated that the disease can only exist when the blood-supply is far below that which is needed, and that the first step in the direction of a cure, or the healing of a tissue where tubercle is deposited, is the production around the morbid mass of a marked inflammatory hyperæmia. One of the essential characteristics of tuberculosis is that it is a bloodless process. Any condition, therefore, which tends to produce, or to continue, or to aggravate an ischæmia in a scrofulous or tuberculous person, tends to the production or the aggravation of the disease. On the other hand, the opposite condition is a powerful antagonist to the production or the continuance of the malady.

Dr. S. was willing to go as far as reason and experience would lead any one, in according to general conditions a due amount of consideration, but he thought that such

guides would not, in the present state of our knowledge, permit him to take such advanced ground upon the pyæmia question as Dr. Nancrede had assumed. He had no intention, however, of entering upon any lengthy discussion of the nature of pyæmia. His object in presenting the specimens had been merely 'to exhibit for the benefit of those members of the Society to whom the opportunity seldom or never comes of examining and studying for themselves the differences generally to be seen by the naked eye between embolic or non-infectious pneumonia and the pyæmic or metastatic abscess arising from an infectious embolus lodged in one of the vessels of the lungs.

He had never seen specimens which better contrasted the naked-eye appearances of those two different sequences of embolism in the lung, and he could not at all agree with Dr. Nancrede when the latter stated there was no essential difference between the form or shape of a pyæmic abscess and that of the infarction from a non-infectious embolus, and referred to the exhibited specimens as a corroboration of his opinion. On the contrary, the specimens show, in as typical a manner as possible, the difference which generally prevails.

Dr. S. did not believe it to be by any means an absolute rule that in embolic pneumonia the infarctions are wedge-shaped, with their base on or towards the pleura, and that in the metastatic abscess of pyæmia the infarctions have rounded borders, but he thought that generally this distinction was to be observed. In the present cases it can be very distinctly seen that nearly all the infarcts in the pneumonic case have a general wedge-shaped outline, while almost all of the metastatic abscesses of the other case have rounded forms. Dr. S. believed, with Drs. Norris and Guitéras, that the original form of the pyæmic infarct is shaped by the same mechanical conditions which generally secure to the non-infected infarction a pyramidal outline, which it retains, and that the inflammation and suppuration which the irritating embolus of pyæmia rapidly induces soon round off the corners and plane surfaces of the original wedge. When the post-mortem examination is made, the inflammation has generally existed long enough to have wrought this change. Hence the generally round or spherical aspect of the metastatic abscess. He believed also that there is in pyæmia an essential tendency to suppuration which cannot be satisfactorily accounted for by any amount of ordinary asthenia. Almost never, no matter how asthenic the patient may have been, do we find the infarctions of embolic pneumonia losing their characteristic shape from a secondary inflammation and suppuration. Dr. Nancrede attempts to escape the force of this fact by saying that we do not find the inflammation and suppuration here

simply because the patients are overwhelmed by the plugging of their lungs,—are drowned before the inflammation has had time to develop. It is a sufficient answer to this conjecture to state that experience has shown that in the vast majority of cases which have been examined, the embolic patches are comparatively not very numerous, and are most frequently limited to the lower lobe of one lung, and that instead of death being caused by an overwhelming of the lungs, nearly all the patients die of some fatal intercurrent trouble.

Case of diabetes with fatty diarrhœa. Presented by Dr. M. LONGSTRETH for Dr. H. E. GOODMAN.

Col. S. M. Z., M.D., æt. 55 years, entered the army in 1861 in excellent health, weight about 190 pounds. In the summer of 1862 had an attack of jaundice, diarrhœa, cough, with fever, known as typho-malarial fever; recovered; had a return of diarrhœa, fall of 1863, at Lookout Mountain, for which obtained leave of absence; again had another attack after Sherman's march, for which granted leave of absence from Savannah, Ga., January, 1865. While at Gettysburg, July, 1863, met with an accident by his horse falling on him; supposed injury of spine, causing severe pain in back and limbs, for which he was sent to the general hospital at Georgetown, D.C. After the fall he was subject to pain in the back and numbness in limbs. Wife alleges he had a very severe attack of jaundice and diarrhœa after the war, during which he was not expected to live.

I knew the colonel from 1861 until his death in 1876, and saw him frequently in the field and after the war. From about 1867 or 1868 observed his gradual failing health. October 16, 1873, was first called to see him professionally. Found him emaciated; weight 125 to 130 pounds; diarrhœa so incessant as to confine him to bed; passage involuntary, of the consistence of sweet oil, leaving greasy spots on his bed-clothing. He alleged he passed two gallons of water daily. Had no fever nor pain, only prostration.

October 16, obtained specimen of fæces and urine, which Dr. R. M. Bertolet kindly reported, on October 18, 1873, as follows:

"DEAR DOCTOR,—The urine has a sp. gr. of 1044, an acid reaction, and is devoid of sediment. The normal contents, urohæmatics, urates, uric acid, diminished; chlorides normal in amount; triple phosphates, earthy phosphates, sulphates, apparently diminished quantity.

"*Abnormal contents*, glucose very abundant; no traces of albumen; sulphate of copper, etc., very readily oxidized. The fæces contain mucous epithelial cells in various stages of disintegration, and foreign matter; but the great bulk composed of fat, in the form of spherical masses, composed of dense aggregations of minute crystals, such as are pre-

sented by margarine. It is readily soluble upon the addition of chloroform under the slide.

"Very truly yours,

"R. M. BERTOLET.

"113 S. BROAD STREET."

As the case was one of unusual interest, I desired Dr. Da Costa in consultation. No tumor was felt in the abdomen. He was placed on a diet in which starch and fatty matters were excluded; at first skimmed milk, diabetic-bread, pancreatin, and pepsin, with quinine and opium in small quantities. Under this treatment he gained flesh, the diarrhoea ceased, no fat was observable in the fæces, and the sugar diminished in the urine. Whenever he would transgress in his diet, the diarrhoea and fatty discharges would return and the urine increase in quantity: I looked after him for about a year, during which he attended to his business. He afterwards fell into the hands of his old classmate Dr. McClintock, who continued to treat him until he died, in June, 1876. I saw him while visiting his son for a deformity of the ankle, about a month or two before he died, and found him dropsical and very feeble.

He desired his wife to have me make a post-mortem examination, which Dr. J. Morris Longstreth kindly performed for me twenty-four hours after death.

Autopsy, June, 1876.—Gen. Z., æt. 55. Thirty-nine hours after death. Body in ice. Emaciated.

Cavities.—*Abdomen* contained a small amount of serum, but showed no trace of recent inflammatory adhesions.

Right pleura.—The sac was obliterated by firm adhesion of the upper lobe, in which were found numerous ecchymotic patches; the lower part contained a collection of serum and a mass of recent flocculent lymph.

Left pleura.—There were a few old adhesions of the *left lung* to the chest-wall, a small collection of serum, but no recent lymph. The *pericardium* contained f3ij of serum, with a little flocculent lymph.

Heart was covered with a small amount of fat. Left ventricle hypertrophied. Aortic semilunar valves showed no marked change. The orifice was rigid from atheromatous changes (one place was calcareous) just above the valves. The hydrostatic test showed slight incompetence at this orifice. Mitral valve was atheromatous in places.

Lungs.—The *left* was crepitant throughout, much congested posteriorly; its upper lobe normal; lower lobe on section exudes abundance of bloody, slightly frothy serum; its tissue unaltered in consistence. The *right* upper lobe showed a number of cheesy masses, and one cavity the size of a pullet's egg, containing thick yellowish-white matter. Its lower lobe was to a great extent carnified (compressed by inflammatory exudation), showing no cheesy masses, and no evidences of pneumonic consolidation.

Spleen was enveloped in a complete fibrous (inflammatory) capsule, was large (six inches in length), pretty firm, regular in outline; on section, its tissue was found normal in appearance.

Kidneys.—The *left* was much congested, the surface uneven and mottled, the capsule decidedly adherent. On section, the vessels were very conspicuous; the relation of cortex to medulla was normal. The whole organ was very considerably enlarged. The *right* presented about the same appearance. It was less congested, and its capsule was less adherent.

Suprarenal capsules were normal in size and consistence. The medullary portion was perhaps rather increased in amount.

On the left side of the vertebral column, behind and below the stomach, was found a rounded, firm mass, about the size of a large orange. It was tightly adherent posteriorly, especially to the connective tissue above the left kidney. The mass was carefully dissected out and found to be an enlargement of the tail of the pancreas. It was a cyst, with firm, rigid walls, so rigid that it did not collapse, nor could even be much indented, although its contents had escaped during the removal, at a point where the wall was thinned and adherent. Unfortunately, the fluid contents suddenly escaped, and none could be collected for examination. It was of a yellowish-green color, more fluid in consistence than white of egg. The tumor, together with the rest of pancreas, and about six inches of the duodenum were removed together, ligatures being placed on the intestine before its division.

Subsequently, dissection showed that the cavity of the cyst had no communication with the pancreatic duct. The interior was covered by dirty-brownish material, thickly gelatinous in consistence, which could be readily rubbed or scraped off, but had no tendency to separate of itself. Parts of this material were deeply colored black. Within the cyst, attached to the right wall, was found a rounded mass the size of a large plum, having a short fibrous pedicle. This mass was freely movable by its pedicle. The *pancreatic duct* was traced from the intestine through the length of the organ as far as the cyst-wall, at which point it ended abruptly. The lumen of the duct was very large throughout the whole length of the body of the pancreas, and suffered but little diminution as it approached the cyst. The portion of the duct passing in or behind the head of the organ to reach the intestine was narrow, perhaps narrower than normal; the probe found difficulty in passing this portion of the duct as it approached the wall of the intestine. The duct was opened at the point where it passed from the head to the body of the pancreas, and here were seen two small sacs or pouches in which some calculous matter rested. The

glandular tissue of the organ appeared to be entirely atrophied; the head of the pancreas was represented by a lump of fibrous tissue, which was continuous with a mass of connective tissue (new growth) between the stomach, pancreas, duodenum, and transverse colon. This connective tissue surrounded the blood-vessels in this region, and received numerous small branches from them, and was evidently constricting and pressing upon the duct.

The *common gall-duct*, which was also involved in the mass, was somewhat dilated; its entrance into the intestine, whilst somewhat narrowed, was less interfered with than the pancreatic duct.

The *splenic artery* was found passing along the border of the atrophied pancreas, and then on the posterior wall of the cyst, to which it was adherent. At the point where this vessel reached the cyst-wall it gave off a moderately large branch, passing apparently to the cyst, close to the attachment of the pedicellated mass within the cavity. No connection could be traced between them.

The *vena portarum* and the termination of its principal branches were lying in looser parts of the connective tissue, and seemed not to be interfered with by it.

The *liver* was large; its outline pretty regular; its capsule marked by occasional white patches or spots. On the surface of right lobe was a small spot of atrophy (racemose). On section, its tissue appeared normal.

The *gall-bladder* contained golden-colored bile. In it were found two small biliary concretions. Its mucous membrane appeared normal. Its duct, as well as the hepatic duct, appeared wide. They showed no point of constriction, and no evidence of inflammatory change. The connective tissue, from the transverse fissure of the liver downwards, enclosing the bile-ducts and vessels, was greatly increased in amount.

The *stomach* was contracted. Its mucous membrane showed very considerable post-mortem change, but nothing abnormal.

The microscopic examination of the contents of the intestinal tube showed nothing especial. There were present starch granules, partly disintegrated muscular fibres, very numerous oil globules, and amorphous granular matter.

The cortex of the kidney shows, microscopically, fatty changes in the epithelium of the tubules. At the periphery of the organ there is an increase of connective tissue, especially seen directly beneath the capsule, but also in the contiguous deeper parts.

Hepatic abscess discharging through the right lung. Presented by Dr. LOUIS STARR.

I am indebted to Dr. Forbes for the privilege of presenting these specimens, the patient from whom they were taken having been under his care in the Episcopal Hospital for a short time prior to death. They were obtained from the same case from which Dr.

Packard removed the carcinomatous tumor which was exhibited to the Society on November 22, 1877.

The patient was a man 58 years of age, who was admitted to the surgical ward of the Episcopal Hospital on October 26, 1877. The tumor referred to was removed from the parotid region on October 29. On November 4 he was attacked with pneumonia of the lower lobe of the right lung. The acute symptoms began to subside in about two weeks, but he continued to have considerable cough, attended with the expectoration of somewhat tenacious, blood-stained mucus. Three weeks before death, which occurred on January 21, 1878, the expectoration changed in character, becoming more abundant, purulent, and slightly offensive in odor.

The *autopsy* was made twenty-four hours after death. On opening the thoracic cavity, the surface of the lower third of the right lung was found to be bound to the chest-wall by moderately-firm pleuritic adhesions, while the rest of the right pleural cavity was filled with a reddish sero-purulent fluid. In the upper postero-lateral portion of the fissure, between the superior and inferior lobes, there was an abscess an inch and a half in diameter, partially filled with thick purulent matter, and lined with a firm membrane. This abscess did not involve the lung-tissue, but communicated with the pleural cavity through an opening one-fourth of an inch in diameter, having thin, well-defined edges. In the lower part of the middle lobe there was a large cavity, with very irregular walls, having a free communication with one of the larger divisions of the right bronchial tube, and also, through a perforation in the diaphragm, with an extensive superficial abscess, situated upon the posterior portion of the convex surface of the right lobe of the liver. There was some congestion of the middle and lower lobes.

The left lung contained several isolated collections of caseous material, but in other respects was normal.

The abscess of the liver, though not extending deeply into the substance of the organ, measured nearly four inches in transverse diameter. The remainder of the hepatic structure was apparently healthy.

The cardiac walls were flabby, the kidneys were large and fatty, and the spleen was nearly twice its natural size.

COMPARATIVE VALUE OF BROMIDE AND CHLORIDE OF POTASSIUM IN EPILEPSY (*N. Y. Med. Jour.*, 1878, p. 403).—Dr. E. Seguin concludes as the result of numerous trials with these remedies—1, that KCl and K are not efficacious in the treatment of epilepsy; 2, that KBr and the bromides are positively useful in reducing the number and severity of epileptic attacks.

REVIEWS AND BOOK NOTICES.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by DR. H. VON ZIEMSEN. Vol. XIV. DISEASES OF THE NERVOUS SYSTEM AND DISTURBANCES OF SPEECH. By PROF. A. EULENBURG, PROF. H. NOTHNAGEL, PROF. H. VON ZIEMSEN, PROF. F. JOLLY, PROF. A. KUSSMAUL, and DR. J. BAUER. ALBERT H. BUCK, Editor of the American Edition. New York, William Wood & Co.

That portion of the present volume of Ziemsen's "Cyclopædia" which treats of diseases of the nervous system is chiefly occupied by Prof. Eulenburg's articles upon vaso-motor and trophic neuroses, angina pectoris, unilateral progressive atrophy of the face, Basedow's disease, progressive muscular atrophy, pseudohypertrophy of the muscles, and true muscular hypertrophy, as well as catalepsy, tremor, paralysis agitans, and athetosis. In addition, Nothnagel writes upon epilepsy and eclampsia, Bauer upon tetanus, Von Ziemssen upon chorea, and Jolly upon hysteria. It is, perhaps, necessary that these articles should be brief, but it makes them somewhat unsatisfactory for reference, and we could wish that Kussmaul's essay upon disturbances of speech, deeply interesting as this is, might have been in part sacrificed to the more "practical" portion of the volume. Fortunately, the admirable bibliography attached to each article fills up some lacunæ. x.

GLEANINGS FROM EXCHANGES.

DEATH DURING INHALATION OF ETHER.—The following case is reported in the *British Medical Journal* for May 18, 1878: "A man was admitted to the London Hospital suffering from irreducible scrotal hernia. Taxis having been used, but the symptoms remaining unrelieved, it was considered advisable to place the man under an anæsthetic. The house-surgeon accordingly administered ether, using not more than one ounce and a half in all. The patient came under the influence of the ether rapidly, and without difficulty or adverse symptoms. The local examination was then proceeded with. The patient's respirations were perfectly regular, and his pulse good, when, about six minutes after inhalation began, a sudden spasmodic inspiratory sound was heard, as if he were choking. His tongue was immediately drawn forward with the forceps; but respiration had ceased, although his pulse continued to beat for another half-minute. Silvester's artificial respiration was employed, but no spontaneous inspiratory effort followed. During the artificial respiration, some fecal matter came up into the mouth. These efforts were continued a quarter of an hour, but proved useless. At

the post-mortem examination, the left ventricle was found contracted; but the heart appeared healthy. The lungs were extremely congested. There was fecal staining of the cesophagus and larynx, but no such matter had been drawn into the lungs. The liver was healthy. The kidneys were slightly granular, but not congested. The portion of small intestine which had been strangulated was about twenty inches in length, extremely congested, with commencing peritonitis upon its surface. It must be remembered that in such a case as this, where strangulation had existed four days, and was attended with constant vomiting and a feeble circulation, there were many circumstances predisposing to death besides the administration of ether.

TREATMENT OF PUERPERAL AND OTHER HYPERPYREXIE BY COLD.—Dr. Wiltshire (*British Medical Journal*, May 18, 1878) gives notes of two cases of puerperal hyperpyrexia treated by means of dry cold,—the patients being surrounded in their beds with bottles, etc., filled with ice. This reduced the temperature for the time being, usually, but not invariably. The relief experienced by the patients was at times great and palpable, but they could not sleep during the applications, possibly because none were made to the head. Dr. Wiltshire prefers the dry packing as obviating the necessity of removal from bed. In the same number of the journal, Dr. Waters gives an account of a case of acute rheumatism and one of typhoid fever successfully treated by cold baths.

A PHYSIOLOGICAL HINT TO PHOTOGRAPHERS.—Discomfort, amounting in many persons to actual distress, is experienced in sitting for a photographic portrait. The eye is fixed on a certain spot, and, whilst staring at this, vision becomes indistinct, surrounding objects especially being lost in a thickening mist. A feeling of giddiness, and even of faintness, is apt to follow if the sitting is at all prolonged. Whilst undergoing an ordeal of this kind the idea was suggested to Dr. Buzzard (*Lancet*, April 20) that a diagram of a clock-face some four inches in diameter and posted about eight feet in front of the sitter would be a more agreeable object to look upon. He tried the experiment, allowing his eye to rest first upon the figure XII, then upon I, and so on around the circle. While this slight change rested the eye and preserved the brain from fatigue, the photographer found that it produced no indistinctness in the picture of the eye, even the iris being well defined. It is evident that the plan described is likely incidentally to prevent to a great extent the staring expression which the face assumes when the gaze is long fixed upon an object, for it combines a certain amount of free play of the eyes with accuracy of photographic definition. Dr. Buzzard says, "A somewhat larger circle, I have no doubt, may be employed with even greater advantage; and

printed words, pictures, or other objects may replace the figures. For children, and others who do not easily follow directions, a disc with a single aperture towards its edge might be made to revolve, in the direction of the hands of a clock, before another disc prepared with pictured objects of some kind or other, so that one would appear at a time at short intervals of space, and attract the eye. Various other modifications, indeed, at once suggest themselves as feasible, so long always as the figure towards which the gaze is directed presents a *succession* of objects arranged in a circular form."

SUCCESSFUL TREATMENT OF FUNGUS, OR SO-CALLED HERNIA CEREBRI, BY SOLUTION OF PERMANGANATE OF POTASSIUM UNDER PRESSURE.—Dr. H. O. Hitchcock reports in the *Detroit Lancet* for January two cases of hernia cerebri following injury to the skull, in which he applied a folded cloth saturated in a solution of permanganate, ten grains, and later twenty, to the ounce, secured with slight pressure by a roller. The treatment appeared to act well, recovery taking place in both cases.

MISCELLANY.

A NEW, CHEAP, AND SELF-GENERATING DISINFECTANT.—Under this title, Dr. John Day, of Geelong, Australia, recommends for use in civil and military hospitals, and also for the purpose of destroying the poison-germs of smallpox, scarlet fever, and other infectious diseases, a disinfectant ingeniously composed of one part of rectified oil of turpentine and seven parts of benzine, with the addition of five drops of oil of verbena to each ounce. Its purifying and disinfecting properties are due to the power which is possessed by each of its ingredients of absorbing atmospheric oxygen and converting it into peroxide of hydrogen,—a highly active oxidizing agent, and very similar in its nature to ozone.

DR. G. F. WATERS, of Boston, has found the milky juice of the common milk-weed (*Asclepias Syriaca*) to afford an elegant method of healing wounds. The only essential point is to dry the wounded surface gently and thoroughly with blotting-paper before applying the milk-weed juice. From the description, it appears that after the juice was applied, and while the healing was in progress, a piece of blotting-paper was also used to cover the surface.—*Exchange*.

NOTES AND QUERIES.

OBITUARY.

BREVET BRIGADIER-GENERAL J. J. B. WRIGHT, a veteran medical officer of the United States Army, and among the most widely known and esteemed of the medical staff, died at his residence in Carlisle, Pennsylvania, on the 14th of May, 1878.

General Wright was born at Wilkesbarre, Penna., in May,

1801. After graduating in the Medical Department of the University of Pennsylvania, he engaged successfully in the active duties of professional life near his native town, but, becoming dissatisfied, he entered the medical corps of the army, his commission dating from October 25, 1833.

Most of Dr. Wright's official career was spent on frontier stations, and he was actively engaged in both the Seminole and Mexican wars, receiving during the latter service marked commendation from his commanding officers.

During the late war, Surgeon Wright was on the staff of Generals McClellan and Rosecrans, as Medical Director of the Department of the Ohio, and was in the field during the early engagements in West Virginia. Subsequently he was Medical Director of the Department of the Missouri, on the staff of General Halleck. He attained the rank of colonel and brevet brigadier-general, and was retired December 31, 1876, after a service of more than *forty-three* years on the active list.

General Wright was a man of remarkable individuality and force of character; of great urbanity in his bearing towards every one; of true soldierly instincts in whatever appertained to duty, never permitting personal considerations to interfere with its prompt discharge.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM JUNE 2 TO JUNE 15, 1878.

HEAD, J. F., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for two months. S. O. 47, Division of the Atlantic, June 4, 1878.

BAILY, J. C., MAJOR AND SURGEON.—To accompany troops ordered on campaign against the Bannock Indians in Southern Idaho, and to report in person to Major George B. Sanford, 1st Cavalry, at Kelton Station, C. P. R. S. O. 79, Division of the Pacific and Department of California, June 3, 1878.

WILLIAMS, J. W., MAJOR AND SURGEON.—Assigned to duty at Fort Sill, Indian Territory. S. O. 102, Department of the Missouri, June 5, 1878.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at San Antonio, Texas, to date from June 4. S. O. 118, Department of Texas, June 7, 1878.

KOEFER, E. A., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty with troops ordered from Camp Douglas, U. T., to temporary duty at Fort Hall, Idaho. S. O. 50, Department of the Platte, June 5, 1878.

VICKERY, R. S., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 125, A. G. O., June 10, 1878.

O'REILLY, R. M., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Charleston, S. C. S. O. 65, Department of the South, June 4, 1878.

PATZKI, J. H., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Army Medical Board, New York City, for examination for promotion, and, on completion of examination, to the Commanding General, Department of the East, for assignment to duty. S. O. 125, c. s., A. G. O.

WINNE, C. K., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one year from June 1, 1878, on Surgeon's certificate of disability. S. O. 120, A. G. O., June 4, 1878.

KILBOURNE, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Riley, Kansas. S. O. 102, c. s., Department of the Missouri.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort McKinney, Wy. T. S. O. 53, Department of the Platte, June 11, 1878.

WOOD, M. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort McPherson, Nebraska. S. O. 53, c. s., Department of the Platte.

TAYLOR, M. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To proceed to Santa Fé, and report to the Commanding Officer, District of New Mexico, for assignment to duty. S. O. 105, Department of the Missouri, June 12, 1878.

NEWLANDS, WILLIAM L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for four months, with permission to go beyond sea. S. O. 121, A. G. O., June 5, 1878.

PHILADELPHIA, JULY 6, 1878.

ORIGINAL COMMUNICATIONS.

NOTE ON THE EFFECTS OF PRESSURE ON THE IRRITABILITY OF NERVE-TRUNKS.

BY ROBERT MEADE SMITH, A.M., M.D.

THE fact that pressure on the trunk of a nerve may destroy its power of conducting impressions, and that this function may return upon removal of pressure, received its first experimental confirmation in the observations of Bastian and Vulpian in 1855 (*Gazette Méd. de Paris*, 1855, p. 794), and of Aug. Waller in 1862 (*Proc. Royal Soc.*, 1862).

These observers, experimenting on the effects of rapid compression of their own nerves and those of others, noticed among the first symptoms a condition of hyperæsthesia of the region supplied by the nerve, soon, however, giving place to local anæsthesia and muscular palsy; when the pressure was removed, muscular contractility and sensibility gradually returned. In these experiments, however, the sole test of the degree of disturbance of function consisted in the degree in which the muscles obeyed the mandates of the will, and the sensations evident to the person experimented upon. It is evident, therefore, that before these experiments can be accepted as explaining the effects of pressure on the *nerves alone*, several elements necessarily involved in the mode of producing pressure (pressing the arm over the back of a chair, etc.) would have to be eliminated; otherwise it would be difficult to explain the fact, noticed by Waller and confirmed by Mitchell, that the paralysis consequent upon pressure in the trunk of a motor nerve was not confined to the muscles in which that nerve was distributed. So, also, it would be difficult to decide from these observations whether the hyperæsthetic condition observed was owing to a condition of exalted irritability of the nerve ends, directly due to pressure on its trunk, or whether the pressure itself acted as an irritant, or again whether it was due to circulatory disturbances.

The fact that pressure on the trunk of a nerve may increase its excitability appears to be generally assumed, though I

have been able to find no experimental demonstration of the fact other than the questionable investigations above alluded to. Harless (*Zeitschrift für Rat. Med.*, Bd. vii. p. 219), in his experiments made to determine the effects of different currents of air on the irritability of nerves, has explained the increase following the drying of the nerve by warm currents as due to pressure of the coats of the nerves upon their contents, the coats shrinking from evaporation of their water; but I have been unable to see that he has made any direct experiments to substantiate this view, although he is quoted as having done so by Funke (*Physiologie*, erster Band). While, then, the condition of the peripheral portion of a nerve whose trunk has been subjected to pressure seems still to admit of investigation, the experiments of Dr. S. Weir Mitchell (*Injuries to Nerves*, p. 111) have established beyond a doubt that the nerves in warm-blooded animals whose conductivity has been destroyed by continued compression may regain that power on removal of the pressure.

In the first series of my experiments made to determine the influence of pressure on the irritability of different portions of the motor nerves, the animals (frogs) were first killed by destroying the brain and spinal cord; one of the sciatic nerves was then carefully dissected out from the knee up to the spinal column, which was divided transversely above the origin of the three nerves which go to make up the sciatic; the vertebral fragment was then bisected, each half serving as a support by means of which the nerve can be freed from its attachments without handling. The muscles were then cleared away from the femur, which was divided in its upper third, and the tibia and fibula removed below the knee, after having cut across the tendo Achillis, and freed the gastrocnemius up to its femoral origin. The femur of the "nerve-muscle preparation" was then clamped to a brass support in Pflüger's moist chamber, so as to allow the muscle to hang perpendicularly, while the tendon was attached by a Kronecker forceps and silk thread, through a slit in the bottom of the chamber, to the lever of a Marey sphygmograph, which, in the want of anything better, could serve as a recording apparatus for the muscle-curves. The nerve was then placed in a horizontal

position on two pair of Donders's modification of Dubois-Reymond's non-polarizable electrodes, one pair being near the muscle end, the other near the spine, care being taken that an equal nerve-surface in each case rested upon the electrodes. I employed two forms of non-polarizable electrodes, one consisting simply of a section of glass tube, about an inch and a half long, plugged at one end with a putty made from moulder's clay moistened with a .75 per cent. solution of chloride of sodium, the plug projecting from the end and bent round so as to form a right angle with the rest of the tube. The tube itself contained a few drops of a saturated solution of sulphate of zinc, into which dipped the amalgamated end of a strip of zinc, covered in the greater part of its length with varnish and connected by its other end with the copper battery-wire. In the other form the tube was drawn out to a point, and then bent round so as to form a horse-shoe, in the concave surface of which a small hole was drilled. The bent end of the tube was then filled with clay, which only, however, came in contact with the nerve through the hole. Greater accuracy can be attained through the use of this second form of electrodes: since the tubes, being easily made of the same size and angle, can be made to contain exactly the same amount of clay, and so furnish an equal resistance to the passage of the electric current, while the uniform size of the holes drilled in them insures the apposition of equal areas of nerve-surface to the conductors. Between the two pair of electrodes, the middle portion of the nerve rested, in some instances on a cork, in others on a glass support. The whole was covered by a glass shade, containing sheets of blotting-paper moistened with water or the normal salt solution, care being taken that the wet paper touched neither the nerve, muscle, nor wires. The zinc strips of the electrodes were connected by means of insulated copper wires, through Pohl's commutator or double key, with the secondary coil of Siemen's modification of Dubois-Reymond's induction coil, the modification consisting simply in enlarging the primary coil to 115 mm. in length, 30 mm. in diameter; the secondary coil to 115 mm. in length, 60 mm. in diameter; while the secondary, moving on brass tracks, could only be moved to the distance of 230 mm. from the primary

(the brass tracks were connected with the electrodes). In order still further to weaken the induced current, the core of the primary coil, 145 mm. long, 10 mm. in diameter, could be withdrawn either partially or entirely. The primary coil was connected—a Dubois-Reymond key intervening—with one Grove cell, 81 mm. high and 58 mm. in diameter. Pohl's commutator was arranged so that the current could be sent, without changing its direction, either through the peripheral or the central portion of the nerve. Pressure was made by a column of mercury in very much the same manner as employed by Dr. Mitchell. A graduated straight glass tube, 60 cm. in length and 5 mm. in diameter, had attached at one end a small rubber balloon, the lateral expansion of which was prevented by a tube of card-board of a little larger diameter than the glass tube, and projecting about 5 mm. beyond it; this card-board was notched to permit of the passage of the nerve, and likewise fitted with an india-rubber cover. Around the middle of the card-board tube was fastened one end of a copper wire of the same length as the glass tube, and running in a direction parallel to it. Both tube and wire passed through a hole in the top of the glass shade, partially closed by india-rubber. When it was desired to make pressure on the nerve, a little mercury was poured into the glass tube, which was then carefully lowered, so as to compress the central portion of the nerve between the column of mercury and the glass support, care being taken that the nerve lay in the notches in the card-board, thus protecting it from pressure by the tube itself. The tendency of the tube to rise, which was always present whenever it contained a considerable quantity of mercury, was overcome by clamping firmly the copper wire. I have made sixty-three experiments in all, of which I present the following as examples:

Exp. I.—Rana temporaria; interrupted current:

TIME.	S.	M.	REMARKS.
8.40	230-83*	230-70	
8.45	230-83	230-70	
			Pressure, 23 cm. Twitching.
8.50	220	230-73	

* Secondary coil moved to utmost distance from primary, with core withdrawn 83 mm. When a stronger current was desired, the core was first replaced, and then the secondary and primary coils approximated. Observations were made every five minutes; only the *extreme* changes are here tabulated.

TIME.	S.	M.	REMARKS.
8.55	220	230-75	
			Pressure removed.
9.05	230	230-70	
			Pressure, 42 cm.
9.25	195	230-75	
			Pressure removed.
9.30	225	230-65	
	S.—Spinal end of nerve.		
	M.—Muscular end of nerve.		

Exp. II.—Rana temporaria; interrupted current:

TIME.	S.	M.	REMARKS.
6.00	230-85	230-75	
6.05	230-85	230-75	
			Pressure, 10½ cm.
6.15	230-80	230-80	
6.20	230-80	230-75	
			Pressure raised to 17 cm.
6.30	230-85	230-90	
6.45	230-75	230-85	
6.55			Pressure raised to 45 cm.
7.00	200	230-75	
7.05	140	230-75	
7.10			Pressure removed.
7.15	180	230-65	

Exp. III.—Rana temporaria; interrupted current:

TIME.	S.	M.	REMARKS.
12.45	230-130	230-115	
12.50	230-130	230-115	
12.55			11½ cm. pressure.
1.00	230-95	230-118	
1.10	230-85	230-125	
			Pressure removed.
1.15	230-90	230-110	
1.40	230-98	230-115	
			10 cm. pressure. Spontaneous movements.
1.45	230-115	230-115	
1.50	230-100	230-135	
1.55	180	230-140	
2.05	180	230-120	
			Raised to 34½ cm. pressure.
2.10	210	230-115	
2.30	210	230-105	
			Raised to 45 cm. pressure.
2.35	205	230-105	
4.45	145	230-95	

Exp. IV.—Rana temporaria; interrupted current:

TIME.	S.	M.	REMARKS.
1.30	230-115	230-100	
1.35	230-115	230-100	
			Pressure, 37½ cm.
1.40	230-105	230-110	
1.50	230-100	230-105	
1.55	230-100	230-100	
			Pressure raised to 45 cm.
2.00	230-95	230-100	
2.10	200	230-98	
2.25	185	230-95	
			Pressure removed.
2.30	200	230-98	

Exp. V.—Rana esculenta; interrupted current:

TIME.	S.	M.	REMARKS.
1.00	230-55	230-50	
1.05	230-55	230-50	
			3½ cm. pressure.
1.10	230-50	230-55	
1.15	230-48	230-50	
			Pressure removed.
1.20	230-50	230-50	

In all the above experiments, whose results are confirmed by seven others, it is seen that a constant effect of pressure of a column of mercury varying from 35 mm. to 450 mm. in height is an increase of irritability of the muscular or peripheral end of the nerve, while the irritability of the spinal or central end as constantly decreases. It is also seen that although these modifications of irritability bear a certain relation to the degree and duration of pressure, the variation is much less marked in the peripheral than in the central end of the nerve. Thus, it is seen in *Exp. V.* that pressure of 35 mm. causes a slight momentary increase of irritability of the peripheral end, disappearing even during the maintenance of pressure, while in *Exp. III.* it is seen that pressure of 115 mm. caused a decided increase of irritability of the peripheral end, lasting during the continuance of pressure, and on its removal falling below and then rising to the normal irritability; while later in the same experiment it is seen that heavy pressure causes a decrease in irritability of the peripheral end. *Exps. I. and II.* again show that when the nerve has been in a state of exalted excitability from long-continued pressure, when the pressure is removed the irritability falls below normal without subsequently regaining the normal state. As regards the effect of pressure on the irritability of the spinal end, it is seen that in all instances the constant and invariable effect is a diminution of irritability, that diminution depending directly upon the degree and duration of pressure, while after removal of pressure, if it has not been too severe or prolonged, there is a constant tendency to regain the normal standard, though never reaching it. In some instances when the irritability of the central end is already depressed by pressure, an increase of the pressure causes a slight momentary rise, followed by a more marked fall. I have never found a return of irritability after removal of pressure in the central end after the nerve had refused

to respond to the strongest currents during the time it was subjected to pressure. These experiments also serve to confirm Pflüger's observations, that the nerves when normal are more irritable at a distance from the muscles, or, rather, as explained by Rutherford, are more irritable near their spinal centres even though these centres are destroyed; while, conversely, the fact that this was noted to be the case in the above experiments goes to prove that the nerves in these instances were in a reliable condition for experimenting on.

Having then seen that the effect of pressure on the trunk of a centrifugal nerve is to increase the irritability of the peripheral end and diminish that of the central end during maintenance of pressure, and that these conditions are, generally speaking, reversed upon its removal, it remains to be seen what are the effects of pressure on the centripetal nerves, and then to try to find the explanation of the facts observed.

The method employed in studying the effects on the centripetal nerves was to compare the degree of reflex action evoked by irritations, equal, as far as possible, in every respect, of different portions of the sciatic nerve of a frog before, during, and after pressure, and also, when an equal degree of irritation failed to call forth a reflex action, to compare the degrees of irritation necessary in the different circumstances. In order to bring the spinal cord into the most favorable condition for developing reflex action, it was divided, in most instances, below the medulla, so as to remove the inhibitive influence of Setschenow's centre; in other instances the animals were narcotized with chloral or opium, without, however, changing the general result. In these experiments, in which I followed pretty closely the method employed by Dr. Rutherford in his experiments on the relative excitability of different portions of the trunk of spinal nerves, the sciatic nerve of one leg was carefully dissected out from the knee up to the spinal column, the femoral blood-vessels ligated, and the muscles and bone of the thigh divided and removed, so leaving the nerve the sole connection between the leg and the body. The femur was then clamped to an upright in Pflüger's moist chamber, and the body of the frog hung up at a little distance by a hook thrust through the point of the nose; the nerve was placed as before in a horizontal position on two pair of elec-

trodes, with arrangements for making pressure on the central portion of nerve, care being taken that the nerve was in no degree injured or stretched in the various manipulations. Other arrangements as detailed before.

A represents the muscular end of the nerve, B the spinal end; pressure made on the central portion. Irritation by means of an interrupted current through Dubois-Reymond's coil.

Exp. VI.—Male rana temporaria; medulla removed:

TIME.	REFLEX ACTION.		DIRECT ACTION.	
	B.	A.	B.	A.
12.28	230-60	230-55	230-90	230-70
12.33	230-60	230-55	230-90	230-65
12.37				
12.40	230-60	100	230-65	230-90
12.43	230-55	100	150	230-80
12.45				
12.48	230-70	170	195	230-80
12.53	230-70	170	200	230-70

36 cm. pressure.

Pressure removed.

Exp. VII.—Rana esculenta; medulla removed:

TIME.	REFLEX ACTION.		DIRECT ACTION.	
	B.	A.	B.	A.
1.45	230-65	230-45	230-83	230-70
1.50	230-65	230-48	230-85	230-70
1.53				
2.00	230-70	230-30	230-80	230-75
2.01				
2.03	230-60	230-35	230-80	230-88
2.12	230-55	0	125	230-100

320 mm. pressure.

505 mm. pressure.

These experiments, which are uniform in their general results with thirteen others, confirm the conclusions already drawn as to the action of pressure on the motor nerves. As regards the action on the centripetal nerves, I have not been able to obtain quite the same degree of uniformity of action; the above experiments, however, may be taken as fairly representing the usual result. In them it is seen that the reflex irritability of the peripheral portion of a nerve whose trunk is subjected to pressure is diminished during the maintenance of pressure, and tends to regain the normal upon its removal, while the irritability of the central end in some instances, when subjected to comparatively light pressure, at first is increased and then diminished, with a tendency to rise upon removal of pressure if its irritability has been reduced below the normal, while in other cases of more severe pressure the preliminary rise is wanting, as may also be the rise subsequent to removal of pressure if it has been too long continued.

As regards the explanation of these results, I do not feel warranted in drawing any positive conclusion from the sixty-three experiments which I have made with that

end in view. The unreliable character of spring frogs for such delicate experimentation, and the want of proper apparatus for following out what seems to me the most probable explanation, must render that explanation at present merely hypothetical. It is well known that the phenomena of electrotonus are due to the influence which a constant current exerts on the inherent currents of the nerve, and that the degree and character of the influence are largely dependent upon the direction and strength of the electrotonizing current; when the natural and polarizing currents have the same direction, the natural current is increased; when contrary directions, the natural current is diminished: in other words, in one instance the polarizing current is added to the nerve-current, in the other it is subtracted. In the first of these conditions, that of kataelectrotonus, the irritability of the nerve is increased; in the other, anaelectrotonus, it is diminished. If now we have a portion of nerve in a condition of kataelectrotonus, it will only require a comparatively weak stimulus to evoke a muscular contraction if that stimulus moves in the same direction as the natural and polarizing current, while it will require a much stronger stimulus if the exciting current moves in a contrary direction, the increase of strength necessary bearing a certain ratio to the polarizing current.

Such being the case, in studying the effects of pressure upon the irritability of nerves as tested by single induction shocks and the making and breaking of a constant current, I noticed that the increase of irritability of the peripheral end was only well marked when the exciting current flowed in the same direction as the natural current, while to an inverse current there was often a diminution of irritability. The following experiment shows this:

Exp. VIII.—Rana temporaria; nerve-muscle preparation in Pflüger's moist chamber; irritation through one Grove cell and Dubois-Reymond rheochord; D stands for descending current, A for ascending; closing shocks only considered; all plugs of rheochord in position; muscular end of nerve.

D.	A.	TIME.
8.*	9.8	4.24
8.	9.8	4.26
6.5	II.	4.30

33 cm. pressure.

D.	A.	Pressure removed.	TIME.
8.5	10.1		4.36

The explanation of these facts which seems to me the most probable is that the mechanical disturbance of the nerve elements, which Dr. Mitchell has shown to occur in the trunk of a nerve when subjected to pressure, causes a temporary increase of the natural nerve-currents. Then, since we know that the direction of the natural current in a nerve is from the longitudinal surface to the transverse section, in this instance a descending current in the portion of nerve under consideration, if we accept the theory that this current is increased by pressure, we can explain the fact that the nerve is more irritable to a descending current while it is less so to an ascending current, and that these conditions are reversed on removal of pressure. It is true that a nerve is always more irritable to a descending current than to an ascending current upon making the current in the weakest phase of Nobili (the strength of current here employed), but in this instance, after determining the minimum stimulus necessary of current flowing in each direction, we find that pressure, instead of increasing the irritability to all stimuli, as it should do if there were no change in the current, here causes an increase to a current flowing in one direction, while the irritability is reduced even below normal to a current flowing in the opposite direction. This seems to show that the ascending current has to overcome a stronger resistance after pressure than before. I have obtained similar results with single induction shocks. As another method of confirmation of this view, I threw the muscle of a nerve-muscle preparation into tetanus by irritating the peripheral portion of the nerve with a weak interrupted current; when now I made compression of the central portion of the nerve there was a decided rise in the curve of tetanus, falling again when the pressure was removed. When, on the other hand, I applied the tetanizing current to the central portion of the nerve, there was a corresponding fall in the muscle curve, so apparently showing that the nerve in the first instance was in a state of kataelectrotonus, while it was anaelectrotonic in the second. While it seems that with this view we can explain the temporary rise in irritability in the peripheral end as

* Millimetre scale on which the mercury cups move, the smaller the number the less current is thrown into the nerve.

due to a kataelectrotonic condition of the nerve, it may also account for a portion of the diminution in irritability of the central end, for we know that a nerve when anaelectrotonic offers more resistance to the conduction of impressions than when in the normal condition. Then, since we know that a nerve is less capable of stimulation upon disappearance of kataelectrotonus, while it is more so upon disappearance of anaelectrotonus, we can also explain the diminution of irritability in the peripheral end and the increase of irritability in the central end upon removal of pressure. This theory may also tend to solve the difficulty occurring to Dr. Mitchell (op. cit., p. 113), where, in alluding to the disappearance of conduction during pressure and its return upon removal, in connection with the mechanical disorganization of the nerve which he discovered upon microscopic examination, he says, "Does it seem possible that the axis cylinders should be so broken as to refuse their office, and yet so reunite in a few seconds as to be fit again for functional duty?" I have never been able to find a return to the normal power of conduction after it has been lowered by pressure; and while certainly the main reduction is due to the mechanical disturbance, as explained by Dr. Mitchell, may not the power which is regained be due, in part at least, to the removal of the increased resistance caused by the anaelectrotonic condition of this portion of the nerve?

On the other hand, the pressure may act as a partial irritant to the nerve, not, however, sufficient to cause a muscular contraction, but which requires only the addition of a weaker stimulus to accomplish that result. Again, one cannot help being struck by the resemblance of modifications of nerve-irritability which follow pressure and those which follow section of a nerve-trunk, though I have been unable to find any explanation of the results which follow section.

While then the theory offered seems the most plausible explanation of the facts so far observed, I hope soon to be able to confirm or disprove these views through direct measurement of the nerve-currents by means of the galvanometer, as well as to finish a series of experiments commenced to determine the *modus operandi* of section of nerves.

BELLADONNA AS A STIMULANT TO THE CIRCULATORY SYSTEM.

BY REINHARD H. WEBER, M.D.

IN No. 275 of the *Philadelphia Medical Times*, Dr. Wilson, in an article on "Opium-Poisoning—Antagonism of Belladonna," gives us his experience of two highly interesting cases of extreme collapse, in both of which life was saved by belladonna, or its active principle, atropia. Dr. Wilson regards opium-poisoning as the cause of the collapse in both cases, notwithstanding that severe vomiting and purging had preceded in his first case. As he appears to base this conclusion on the contraction of the pupils only, he will perhaps pardon me for not coinciding with this view, as I have seen repeatedly great contraction of the pupils in cases of cholera-collapse where no preparation of opium had been given. I recollect vividly the alarm which I felt when I found my first patient with cholera infantum (a babe 13 months old) in the stage of collapse with closely contracted pupils, after I had prescribed six drops of laudanum in an astringent mixture the day before, half a drop only of the laudanum to be taken every two hours. I went to the druggist in order to make sure that no more than this quantity had been added. The druggist's assurance that the mixture had been put up strictly according to my prescription raised a suspicion in my mind that the close contraction of the pupils might have been a consequence of the disease. I concluded not to use any preparation of opium in my next case of cholera infantum. Such a case presented itself soon, and was treated by stimulants and astringents only. The child was lying for over two days in a state of high collapse before death closed the scene, and all the time, except the last few hours, the pupils were closely contracted. Since then I have noticed in most cases of cholera infantum, when collapse was severe enough to produce a decided stupor, this close contraction of the pupils. But for my present purpose, viz., of drawing attention to the high efficacy of belladonna as a stimulant to the circulatory and either directly or indirectly to the respiratory centres, this case of Dr. Wilson proves equally valuable whether we consider it produced by opium-poisoning or by cholera. For what are the facts in this now well recognized antagonism of bella-

donna in opium-poisoning? In a severe case of opium-poisoning we have a state of collapse, caused by a depressing influence of the poison on all the *receptive centres* of the nervous system. The danger to life comes principally from the steadily increasing paralysis of the respiratory centres. Although we have investigations which make it certain that toxic doses of opium depress the excito-motor ganglia of the heart too, still we have good reason to believe that the circulation would not be extinguished by the direct influence of the opium alone were it not for its more powerful ally, the steadily increasing carbonic-acid poisoning of the system, caused by the depression of the respiratory centres. Hence the great stress which our best authors lay on artificial respiration after all other means have failed. If we can keep up the circulation, a good chance is open for recovery, as the kidneys are constantly engaged in removing some of the poison from the blood. Sufficient experience has now forced the conviction upon the profession that this keeping up of the circulation in cases of opium-poisoning can be accomplished best by the subcutaneous administration of atropia. As proof is wanting that we can regard atropia in the light of a chemical antidote, we are forced to conclude that atropia does keep up the circulation and respiration in opium-poisoning by exerting a contrary influence on the circulatory and respiratory centres, namely, a *strongly stimulating one*. Experiment has also shown that belladonna increases the blood-pressure by stimulating the vaso-motor centres. (See Prof. H. C. Wood's *Materia Medica*, page 236.)

As a consequence of this we have necessarily an increased secretion from the kidneys, and so, by a twofold beneficial influence, the state of danger may be slowly converted into the normal one, and life be saved,—provided that the dose of the poison has not been an extraordinarily large one, and that further absorption of the poison has been stopped by efficient emetics, or by the use of the stomach-pump. But is it not quite rational to conclude from our experience of the favorably stimulant action of belladonna in opium-poisoning that a remedy so effective in overcoming the torpor of the circulatory and respiratory centres, caused by this vegetable poison, intensified by the steady accumulation of carbonic acid, will be of great

service to us in all cases where danger to life arises from the flagging of these eminently vital functions? I cannot help thinking that the phrase in which we have formulated our experience, viz., “the antagonism of belladonna and opium,” has retarded the general perception of this highly important fact. For my part, I cannot resist the conviction that the best means at present at our command to rouse a patient from a severe cholera-collapse, *epidemic or sporadic*, will be the subcutaneous injection of medium doses of atropia with the purpose of stimulating the circulatory system, so that the kidneys and lungs shall be enabled to excrete the poisonous products of tissue-metamorphosis, conjoined with the frequent introduction of small quantities of water into the stomach, in order to relieve the *inspissated* condition of the blood. If vomiting and purging should be persistent, the addition of small doses of morphia to the atropia would appear to me a useful combination. In a former paper I have given my experience with belladonna in severe cases of collapse occurring during attacks of scarlet fever, typhoid fever, and gastro-enteritis, and the good success of this treatment. I wish now to propose the same remedy as *part* of the treatment *in all cases of collapse or shock* in which danger threatens from failure of the circulation, no matter what name we have given to the malady during which this happens. I would call attention to the fact that our latest authors state that danger in croupous pneumonia results from insufficiency of the heart (see Ziemssen's *Cyclopædia of the Practice of Medicine*, vol. v. p. 153). And the same author, speaking of threatened collapse in pneumonia, says, “If we can succeed in stimulating the heart to increased labor until the obstacle in the pulmonary circulation is overcome, the problem will be solved.” But, in order to show what good effects we can hope for from belladonna in cases where the circulation is failing, I will now relate my experience with it in a case of serious valvular disease of the heart. On May 2, Mr. A. was brought to my office, with the following history:

Mr. A., aged 34 years, weaver, had an attack of acute articular rheumatism about eleven years before, which confined him to bed for eight weeks. Ever since he has noticed at times difficulty in breathing and a painful oppression in the left side of the

thorax. These symptoms grew worse by degrees, and he became unable to work and was obliged to seek medical treatment three months before he was presented to me. He now shows puffed eyelids, œdema of the hands with unnatural coldness, and a cyanosed condition of the skin. His lower extremities are very œdematous; but his principal complaint is the great dyspnœa, which allows him to answer interruptedly only to all questions put to him. The dyspnœa also deprives him of his rest at night, as he is obliged to sit in his bed propped up with a chair and pillows. He has taken but very little food for the last week, as his stomach will not retain it. His urine is very scanty, but free of albumen. On auscultation, at the apex of the heart a total absence of the diastolic heart-sound and a loud double murmur are noticed. Over the pulmonary artery, besides a distinct systolic, only a very weak diastolic sound can be heard, but over the aorta no trace of the second sound, only a prolonged first sound accompanied by a loud grating murmur is audible. The impulse of the heart is hardly perceptible, and percussion elicits dulness over the greater part of the left side of the chest, indicating a considerable effusion into the pericardium. At the posterior wall of the thorax there is dulness on both sides extending one inch above the inferior angles of both scapulæ. Absence of vesicular breathing and of pectoral fremitus shows, as the cause of this dulness, hydrothorax on both sides. He has cough, which produces a mucous expectoration very often streaked with blood. The auscultatory signs rendered the diagnosis of stenosis and insufficiency of the aortic valves certain. As the patient had been ordered milk punch by his former attendant, I told him to continue with it, and prescribed the following mixture:

Extr. belladonnæ, gr. ij;
Potass. acetat., ℥ij;
Syrup. toltan., f℥i;
Aquæ destill., f℥iiss.—M.

S.—A dessertspoonful to be taken every four hours day and night.

Three days later the patient presented himself again; his mixture had been all taken, and there was already considerable improvement. His pulse was fuller, and but one hundred beats per minute instead of one hundred and twenty-six, as on his first visit. His dyspnœa was so much relieved that he had been able to rest in bed without a chair for the first time last night. His vomiting had ceased and his appetite was reappearing; his bowels were moved regularly twice a day, but his urine was greatly increased, and, as a consequence, his general œdema and the effusions into the serous cavities were lessened. I prescribed the same mixtures in the same doses, only the syrup of squill was substituted for the syrup of tolu. On May 8, the patient came to my office unaccompanied and greatly im-

proved. His dyspnœa is almost gone; his kidneys are acting so well that he is passing large quantities of water, and, as a consequence, the effusions are disappearing rapidly; especially the pericardial effusion has diminished, as the cardiac dulness has been reduced at least two-thirds. He says that never before in his life has he had such an appetite as now, and he consumes large quantities of nutritious food without disturbing his digestive organs. I ordered a repetition of the last mixture. On May 12 a lady patient, neighbor to Mr. A., tells me confidentially that she had seen him working at his loom that morning. Since that time up to now Mr. A.'s improvement continues, and he is now taking no medicine except a ferruginous tonic.

Although belladonna has not been used alone in this case, still I cannot hesitate a moment to ascribe the larger share of the good effect to the belladonna, as he had been treated by a regular physician for dropsy for three months already, and no doubt diuretics had been used freely but without effect. It is also quite apparent that an increased secretion from the kidneys is impossible without an increased supply of *arterial blood* to these organs. This increased supply can have been the result only of the stimulating effect of the belladonna upon the vaso-motor centres and the excito-motor ganglia of the heart.

No. 854 NORTH FIFTH STREET.

CONSERVATIVE SURGERY IN COMPOUND COMMUNUTED FRACTURES.

BY ROBERT BURNS, M.D.,

Frankford, Philadelphia.

(Read before the Surgical Section of the American Medical Association, June 6, 1878.)

IT is undoubtedly the case that many severe compound comminuted fractures of the extremities may be saved from amputation, and restored to usefulness, under careful and judicious management, especially so in civil practice, where perfect quietude and suitable appliances can be had. In active military practice it may be a very difficult matter, and many limbs may be lost on the field which would be saved under other circumstances. To save a limb is vastly more important and praiseworthy than the most expert amputation, however handsomely performed. Having had some experience in this kind of surgery, I feel loath to have recourse to

the knife, if there is a reasonable hope of success in conservatism.

The case which is brought forward to illustrate the above principle (of practice) was one of great severity, and very discouraging in its aspects, being a compound comminuted fracture of the humerus, ulna, and radius, in four separate places, with penetration of the soft parts on both the fore- and upper arm, the history and treatment of which I shall present as concisely as possible, hoping that it may not be without some interest and utility, by inducing surgeons to gain reputation by saving rather than removing limbs.

John Marshall, about 39 years of age, born in Yorkshire, England, by occupation a wood-turner, engaged in that branch of his trade denominated bobbin and spool turning, in Frankford, Twenty-third Ward of Philadelphia. On Wednesday morning, March 20, 1878, while on a ladder proceeding to put the belting over the pulley, while the shaft was making five hundred revolutions per minute, being much slower than the working movement, his little finger was accidentally caught by the belt, the arm thrown backwards and revolved with the shaft. With uncommon coolness and presence of mind, he managed to pull out the arm before it was detached from the body or himself killed. Being conveyed to his home, I was sent for, and on examination, immediately after the accident, in the presence of my son, Dr. R. Bruce Burns, found the humerus broken in two separate places, the intermediate piece of bone being about three inches in length, the inner side of the arm, by the border of the biceps, being penetrated by the broken extremity of the bone. The ulna was fractured in a very oblique manner, the radius was broken more transversely and comminuted, and the upper end of the ulna, being sharp, from the obliquity of its fracture, penetrated the integuments to the extent of two and a half inches. Through this opening, after the reduction, several small spiculæ of bone from the radius could be felt by using the finger as a probe. These were allowed to remain, lest too much handling should establish irritation.

My first thought was that the arm could not be saved, but that amputation at the shoulder would be a necessity. The desire of the patient and friends being, of course, to save the arm, and having many

times saved fingers as well as arms and legs, under the most discouraging circumstances, I thought that, as the arteries and nerves were entire, and the habits and constitution of the patient were of the very best character, with judicious treatment the trial might be made. Accordingly, we administered ether, in doing which the patient became very refractory and had wellnigh ruined his arm. However, with active measures of restraint, he soon became completely anæsthetized, and the fractures were as completely reduced as possible. The whole limb was then carefully bandaged and placed in well-padded rectangular splints, extending from the axilla and acromion to the ends of the fingers, and the wounds of the integuments left open, being dressed with ceratum simplex. The reduction of the bones being satisfactory, a bandage was carefully applied, to secure the dressing, the limb being placed upon a pillow covered by oil-cloth. Cold-water cloths were ordered to be constantly applied over the whole, and the patient to be kept under the influence of an anodyne. The extensive abrasion of the integuments of the back of the hand was left open, dressed with cerate, and covered by the wet cloths. When the effects of the ether passed off, he expressed himself as comfortable.

The next day, in consequence of swelling from the subcutaneous effusion of blood, the bandages gave pain, requiring them to be cut at several points, and towards the evening of that day required the removal of nearly the whole dressing, lest the pressure and interruption of the circulation should produce gangrene. The limb was carefully secured upon a pillow, and, under watchful care, was so left until I could proceed to Philadelphia and order the manufacture of a wire splint with an angle of about ten degrees. Having communicated my plan to Mr. Gemrig, the well-known surgical-instrument-maker, he had one made immediately, resembling a deep trough, extending from the axilla to beyond the fingers, in depth that of the size of the arm, and wide enough to admit of packing, and lined with canton flannel. On this splint I placed a bed of finely-picked oakum and another layer of very fine carbolized tow, and on this the arm was placed without a particle of bandage, the space between the limb and sides of the splint being carefully filled with the

soft carbolized tow, making as much pressure by this means as would secure a correct and safe position. The arm was now at perfect rest, and impacted sufficiently tight to keep its place; the upper surface was left bare for easy inspection and the application of a lotion, which was constantly applied day and night. This lotion consisted of common vinegar and whisky, of each half a pint, and one drachm of carbolic acid; to this was added half a pint of water. Cloths saturated with this lotion were applied whenever they became warm; the moisture gently flowed over the arm, percolated through the tow, and passed through the meshes of the wire splint to the oil-cloth underneath upon the pillow, on which the whole was placed. In order to prevent any sudden jerking of the arm, three or four short pieces of bandage were passed around both arm and splint, which so effectually secured the limb *in situ* that the patient could move about, the arm being supported in the splint, without danger of disturbance. Suppuration of the wounds progressed favorably, and the back of the hand healed first. On the fifth day (March 25) the arm was taken out of the splint by steady and careful lifting. The wound underneath was now beginning to suppurate. The whole limb was well sponged and the dressings applied, and then placed gently in the splint. For several days there was some febrile action, though much less than might have been expected. The arm was considerably swollen, but such was the easy position of the arm that, under steady perseverance, no serious difficulty occurred. Every three days it was well washed with soap and warm water, and had the bed of tow renewed. On the twenty-fourth day the humerus was united and in good position; the ulna was also tolerably firm, but the radius was not, and the wound was closing and discharging but little. On the 3d of May, six weeks and three days from the day of the accident, the flesh-wounds were all healed; all the bones but the radius were firmly united, and the health and spirits of the patient were perfectly good. Being now anxious to have some movement of the wrist and elbow joints, I had Mr. Gemrig to make another wire splint, with a joint at the elbow, and enclosed both the lower and upper arm in it as accurately as possible, the arm being bandaged from the ends of

the fingers to the shoulder, leaving the elbow free for the purpose of movement, and the splint was applied, but failed, in consequence of there being too large a space between the lower and upper portions, which caused the elbow to swell and make the patient uncomfortable. It was therefore removed the next day, and replaced in its former splint, being well bandaged, expecting at a future time, when the bones were stronger, to apply another hinged splint to make gradual movement of the joints. Once a week it has been washed and rebandaged since the above date, May 3, and up to this writing, May 26, he enjoys himself in walking about, and although the apparatus on his arm seems clumsy, yet he has become so accustomed to it that he dreads leaving it off. He states that he feels it stronger every day, and that he is certain all the bones are united. In this opinion I concur, and report the case as an entirely satisfactory example of the good results of conservative surgery under apparently unpromising circumstances.

NOTES OF HOSPITAL PRACTICE.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINIC OF PROF. T. GAILLARD THOMAS, FOR DISEASES OF WOMEN.

Reported by P. BRYNBERG PORTER, M.D.

OLD HÆMATOCELE(?).

GENTLEMEN,—The patient whom you see before you comes to us from a distance, but she brings with her a most excellent history of her case from the physician under whose charge she has been for some time. I prefer, however, to get the history for you from her own lips. Her name is Mary S—. She was born in the United States, and is thirty-four years of age. She has been married eleven years, and has never had any children or miscarriages. So much for her social condition. Do we learn anything from this account? Our suspicions are at once aroused that there is something wrong about her pelvic organs. She presents a perfectly healthy appearance, but the fact that she has been married all these years and yet has never been pregnant, shows that she is probably by no means a perfectly healthy woman. Now, however, let us hear what she has to say of her own

case. How long have you been sick, Mrs. S.? "Seven years." Were you in good health at the time of your marriage? "Yes, and for several years afterwards." You have been married eleven years, you say? "Yes, the last time; but I have been married twice, and the first time was sixteen years ago." (This is something which I did not know before, and it already puts me on the scent of something which has not been at all clear about the case.) How was your health at the time of and after your first marriage? "I was well when I was married, and for two months afterwards, and then I had a bad attack of what the doctor called neuralgia of the bowels." (Now I think we shall be able to get at the foundation facts of this woman's case, which I now find I have not before ascertained. A suspicion at once occurs that sixteen years ago something happened which, all through this long period, has rendered the patient incapable of bearing children.) Do you remember anything about this attack that you speak of? "My monthly sickness stopped for some weeks, and my friends said I had taken cold." How long were you sick? "Three months." Were you confined to bed most of the time? "I suffered a great deal from pain, and had to be on the sofa almost always when I was not in bed." (All this comes to me like a revelation. I confess that when the patient came before you there were certain phenomena about the case for which I was quite unable to discern any satisfactory explanation; but in the light of what she has just told us, what was before a mystery is now thoroughly cleared up, and the case becomes, as it seems to me, perfectly plain.) Were you ever so ill at this time that your friends were alarmed for your life? "The doctor sometimes thought that the trouble might go to the heart." Where was the pain situated? "In the back and side, and running down the right limb." Was it so severe that the doctor had to inject morphia under the skin? "I was obliged to use morphia, but I always took it by the mouth." Did you have your monthly sickness at the next period after this attack of illness commenced? "Yes." Now, will you be kind enough to tell us how you have been suffering since that time? "In the morning, when I first get up, I always feel more tired than when I go to bed. My back is

so weak that I can hardly do any work, and when I cough it feels as if it would snap my back in two. In the afternoon I feel somewhat better, but by night-time I am all used up again." Have you desired to have children? "No, I never desired particularly to have children: all I wanted was to get well of my trouble." But you have never resorted to anything to prevent conception? "Oh, no." Do you think you have ever been a well woman since you had that attack of which you have told us? "I have felt pretty well at times, but have never been able to work and get about as well as I could before that." Do you suffer much at the time of your monthly sickness? "I used to suffer a great deal up to a year ago; but since then the doctor has been using sponge tents, and they have given me great relief." How have they relieved you? "The blood used to come away in large clots, which gave me great pain; but when the sponge tents are used there are no clots."

Now, gentlemen, you have heard this interesting history; and the first symptom that strikes us in it is the sterility. It is not, however, the symptom for which the patient has come here to be treated; for she tells us that she has never particularly desired to have children. Next, we learn that a number of years ago there was some serious trouble in the pelvis, which was probably posterior to the uterus, and which was called "neuralgia of the bowels." From the effects of this she is undoubtedly still suffering. She gets up in the morning feeling perfectly exhausted, and, after becoming somewhat more comfortable later in the day, returns to bed at night utterly worn out again. She has a great deal of pain and soreness, and, as she graphically expresses it, when she coughs feels as if it would "snap her back in two." Then, she has had this severe dysmenorrhœa which has been so happily relieved by the use of sponge tents; and, judging from the letter from her physician which she brings, I should suppose that she had been under the most intelligent treatment.

When I made a physical examination (the patient lying upon the back), I discovered that the uterus was pressed over to the right side and greatly bent, or, in other words, that it was in a position about midway between complete lateral version

and anteversion. When I endeavored to pass the probe I met with obstruction at the junction of the cervix with the body of the uterus, but, with a little care, succeeded in reaching the fundus with it. When I withdrew the instrument it was followed by quite a free flow of mucus. It is this flexion, then, which has caused the patient so much suffering at her menstrual periods (rendering the temporary straightening of the canal by the use of sponge tents necessary), and which has prevented the passage of spermatazoa into the uterus, and thus occasioned her sterility. On resorting to conjoined manipulation, I am able to move the uterus up and down pretty freely; but it still remains bent forward. Now, what bent it forward? Just back of the uterus there is a large mass, such as I show you in the manikin, which can be palpated, and which is found to be very slightly movable. One of my assistants, on feeling it, thought that it was a post-uterine fibroid; but to me it gave the distinct sensation of a sac of some kind. Of whatever nature the tumor is, it is undoubtedly this which has caused the flexure of the uterus, and which has given rise to all the symptoms from which the patient has been suffering for the last sixteen years. I may, perhaps, be wrong about its being a sac containing fluid; but I am of the opinion that I detected a sense of fluctuation when employing conjoined manipulation. Is there any way of making a positive diagnosis here? Yes; by plunging a small aspirator-needle into it. If the tumor were a fibroid, there would be no harm done, and if it were a sac containing fluid some of the latter would be withdrawn. If fluid were withdrawn from it, would the diagnosis be made? Yes, as far as this,—that there is a sac posterior to the uterus, which has caused a flexion of the organ, and given rise to the pelvic neuralgia and all the other trouble from which the patient has been suffering for sixteen years.

Supposing that it is a sac, what kind of a one might it be? First, it might be a uterine fibro-cystic tumor, bearing the exact relation to the uterus that this red mass does in the manikin. If such were its character, and we passed the aspirator-needle, we should evacuate its contents; and sometimes these cysts are just as pure a collection of water as ovarian ones. Some years ago a patient like this, but

with a much larger sac in the pelvis, came to the clinic from New Jersey. While on her way here she was seized with such agonizing pain that it was necessary to send her to the Strangers' Hospital, at which I was then one of the attending surgeons. Aspiration was resorted to, and it was then found that a vessel had ruptured inside of the sac, and that her suffering had been due to the great amount of blood which had been poured into it, and which, in connection with the fluid already present, had distended its walls to the utmost extent. A short time afterwards I removed a large sac by operation,—tying or clamping it (I forget which now) at the seat of its uterine attachments. The ovaries were found to be entirely normal. A rather curious accident, I remember, occurred in this case while the patient was recovering. Eight or nine days after the operation, the house-surgeon noticed a clear straw-colored fluid escaping from the drainage-tube, which had been left in position, and which evidently came from the peritoneal cavity. I was a good deal puzzled to know what to make of it, until I made some inquiries in reference to the patient's urine, and ascertained that she had not passed any for twenty-four hours. The bladder was entirely empty, and the fluid when examined was found to be urine. There had evidently been a slough somewhere, and it had thus leaked into the peritoneal cavity, from which it escaped through the drainage-tube, as has been mentioned. After that the foot of the bed was elevated, the bladder was kept empty by means of a catheter permanently secured, and the patient made a good recovery. That was a pure uterine cyst; but I do not think this is the case here, and I am of the opinion that the cyst had its origin sixteen years ago.

Next, it might be an ovarian cyst which by its weight has fallen down into Douglas' cul-de-sac; but this is highly improbable, because such growths are progressive, and in three years it would undoubtedly have called for operation, if it had been of this character.

What, then, is it? My impression is that it is a blood-cyst, and that it was formed in the following way. Sixteen years ago, when the patient had the attack of so-called "neuralgia of the bowels," there was probably a rupture of some vessel, and this pelvic hæmatocele has been the

result. I think it altogether likely that if an examination had been made at that time an enormous collection of blood would have been found just back of the uterus. Ordinarily the blood becomes absorbed in a longer or shorter period; but in certain rare cases a sac containing semi-solid blood remains for years. Perhaps you may ask me if I know of such cases by actual experience. In reply I would say that I have met with one such case, and it was a very striking one. You will understand, however, that I do not make a positive diagnosis, but only give you what seems to me, after a careful consideration of the case, to be the *probable* diagnosis. I shall therefore ask you to regard the case as still *sub judice*, until I shall have had an opportunity of resorting to the aspirator. But let us suppose that I am right (and I do not know how else to account for the history and all the phenomena observed), that there has been a hæmatocele which has lasted for sixteen years, has been the cause of the uterine flexion, and has given rise to all the other symptoms: what treatment is to be pursued?

There are only two plans that can be adopted. The first is to aspirate, and, the contents of the blood-cyst being thus evacuated, allow the uterus to go back to its normal position. Sponge tents, which are now only palliative, on account of the mass behind the uterus preventing it from remaining straight, would then probably become curative, because all source of obstruction would then be removed. But there are two objections against this method of treatment. First, the blood might re-accumulate; and, second, septicæmia might occur through the admission of air into the sac. In such cases as this septicæmia is exceedingly apt to occur; and it would be a serious question whether the amount of suffering undergone by this patient would be sufficient to justify us in running the risk of it.

The other plan is to allow the patient to remain in her present condition, and employ only such palliative measures as may seem of service. I shall not, at all events, decide to-day which plan it would be best to adopt; but after I have written to the patient's physician, and considered the case more fully in all its bearings, I will give you the result of our deliberations.

Now let us suppose that this woman had

been married only three months, that her menses had disappeared, and that she thought herself pregnant. Suppose that the mammary and other signs of uterogestation were present, and yet that the uterus was not enlarged. The diagnosis would undoubtedly be that of extra-uterine pregnancy. But if it were a case of abdominal pregnancy I would not think of operating until labor commenced, as it invariably does in these cases, at the end of nine months, when I would perform laparotomy, precisely as in the case of the colored woman a short time ago at the Woman's Hospital, with the expectation of saving both the life of the child and the mother. But here we may exclude pregnancy if it is ever to be excluded. Yet I know of the case of a woman of sixty-five who had a movable abdominal tumor about which there were various conjectures, such as detached fibroid, floating kidney, etc., but which proved at her death to be a foetus, which had been in the cavity of the abdomen for many years.

(To be continued.)

TRANSLATIONS.

DEVELOPMENT OF WHITE SWELLING.—Kortweg (*Cbl. f. Chirurgie*, 1878, No. 17) says that the first symptoms of "tumor albus" are of a functional nature,—limping and slight pain. A little later, inspection shows a puffy swelling about the joint, which appears both clinically and anatomically to be a diffuse connective-tissue formation in the soft parts about the joint. Rest and compression applied at this stage usually bring relief, and at this time certain circumscribed painful spots may be made out which were before obscured by the general enlargement. Should the joint again be used, the appearances and symptoms above mentioned return. Should a cure not have been effected, examination of the parts at this stage shows—1st, fungous growths from the synovial and perisynovial tissues; 2d, a small quantity of slightly turbid synovial fluid; 3d, the cartilage slightly cloudy and loosened; 4th, frequently bone disease, either in the form of diffuse red softening or collections of caseous necrosis, occasionally also cavities filled with fungosities. When the joint is opened at a later stage, the disease is usually so generalized that its

original seat cannot be demonstrated. This course of the disease Kortweg has followed out in more than a hundred cases which have come under his care, and the conclusion to which his researches have brought him is that "tumor albus" is always primarily an affection of the bones. His reasons are as follows. This theory explains the symptoms rationally. In similar bone troubles of other parts of the skeleton the same sequence of symptoms is noted. That disease of the bones is not always found is not surprising: the central focus of trouble may lie above the line of the saw in operating, so as not to appear in the resection. In one such case, occurring in the elbow-joint, another resection was required, when, just above the level of the first, a centre of disease was found in the bone. Very often the focus of bone trouble is found for the first time in sawing the resected portion for examination, it not having been detected before. If we accept the theory of primary bone affection, we escape the following difficulties, which are unavoidable in connection with the theory of a primary synovial disease 1. Two clinically identical affections must be regarded as anatomically distinct. 2. The irritation experienced by the synovialis must be propagated so rapidly to the external tissues that they become involved almost as soon as the former, and appear indeed the chief seat of the disease. 3. The irritation in the granular synovitis must act on a synovial membrane strongly inclined to chronic hyperplastic process with an intensity at once too decided to cause hydrops and not decided enough to cause suppuration. 4. We must believe that in an undoubted primary inflammation of the joint, synovitis and chondritis may be so slight that, though the patient is lame, with sensitiveness of the tibia for years, not only no suppuration but even no granulation can be found in the synovialis. 5. Finally, we must explain the fact that the spontaneous cure of "tumor albus" almost always occurs without ankylosis, motion being usually nearly normal. x.

TREATMENT OF PERSISTENT VOMITING DURING PREGNANCY BY ETHER SPRAY.—M. Dujardin-Beaumetz (*Bull. Gén. de Thérap.*, No. 7, 1878) gives an account of a young woman in the second month of pregnancy who was seized with such obstinate vomiting that she could not retain either solid

or liquid food. After having tried all the remedies usually employed,—valerianate of caffeine, chloral, plasters of opium, tincture of iodine, etc.,—M. Beaumetz employed the following simple method suggested by Dr. Lubelski,—that is to say, atomization of ether externally against the region of the stomach. The process was as follows. Immediately before a meal, Dr. B. used a Richardson's spray producer, directing the jet towards the middle of the dorsal region, and towards the region of the stomach in front. The vomiting ceased at once, and after eight days' treatment the patient was perfectly well. (Lubelski's paper was read before the Académie de Médecine de Belgique, Séance of Feb. 13, 1878,—*Transactions*, v. xii. p. 76.) x.

RESECTION OF THE RIBS IN RETROCOSTAL ABSCESS.—Some time ago Roser called attention to this operation, but the idea did not find favor generally, and Fränzel, in Ziemssen's Cyclopædia, condemns it. Recently, however, Lossen of Heidelberg has taken the matter up (*Berlin. Klin. Wochens.*, 1878, No. 9), and recommends the operation. Lossen alludes to the usual result of opening the pleura by puncture, the formation of fistula and tedious or imperfect closure of the abscess. This is to be attributed to the stiff and immovable character of the walls of the cavity. Were a method found by which the abscess-walls could be approximated, it could then contract upon itself and heal up. Lossen adds notes of the case of a young girl who had suffered with abscess and fistula in the right side for many years, in whom resection of two-thirds of an inch of the sixth and seventh ribs was practised, and revealed a cavity the size of one's fist, which healed up to a great extent and without untoward symptoms. A second resection resulted in cure of an abscess which had existed seventeen years, and which under other circumstances would probably have lasted the patient's lifetime. x.

CAUDAL APPENDAGE IN THE HUMAN BEING.—Greve (*Cbl. f. Chirurgie*; from *Virchow's Archiv*, Bd. lxxii. p. 129) gives pictures and an account of a new-born child who presented an abnormal extension of the coccyx forming a veritable tail about the size of one's little finger. When this was irritated with the point of a needle, some movement was produced. It was removed by operation at the end of two months. x.

PHILADELPHIA

MEDICAL TIMES.

PHILADELPHIA, JULY 6, 1878.

EDITORIAL.

THE MICROPHONE IN MEDICINE.

IN this age of invention and of marvellous discovery the future possibilities of our profession seem immeasurably widening, especially as regards the early and definite recognition of pathological conditions. The application of the principles of acoustics to diagnosis, the addition of the stethoscope to our means of examination, the almost mathematical accuracy with which the majority of cardiac and pulmonary lesions may in this way be determined, are still subjects of pride and of congratulation with us, when the whole field of physical exploration is suddenly broadened by the discovery of Professor Hughes, that acoustic waves may be almost indefinitely magnified by transformation under certain conditions into electric waves, and that in this way millions of sounds to which we have always been absolutely deaf may be rendered clearly audible. Eager experimenters are already at work, and although practical difficulties still exist, it does not seem visionary to suppose that in a short time many new sounds, normal and abnormal, will become familiar to us, and that, as a consequence, many deviations from health, heretofore only recognized by their resulting organic changes, may be detected, and possibly arrested, at a far earlier period. We find on the one hand Dr. Richardson, of London, examining and noting the heart- and lung-sounds with the aid of the microphone, and, on the other, Sir Henry Thompson lecturing on the use of the microphone in searching for stone and in probing for bullets or for diseased bone. When we remember that by means of this instrument the crawling

of a fly over a piece of gauze may be rendered as audible as the tramp of an army, or its breathing as distinct as the bellowing of a leviathan, we can already look forward to treatises on the sounds of inflammation and the rhythm of fevers; the harmonies of health and the discords of disease will no longer be fanciful similes, but scientific facts, and the poet's assertion that "there is in souls a sympathy with sounds" will be philosophically verified.

A NEW TREATMENT OF AN OLD TROUBLE.

WE are in receipt of an apparatus called a spermatic truss, sent us by the Cooper Truss Company, of Pittsburg, and consisting essentially of a belt to be buckled around the body, and a pouch for drawing the penis downwards and backwards and retaining it in that position. The theory of the employment of this apparatus, as stated in the accompanying circular, is that by its use erection is prevented; that until erection is complete, sexual desire is very feeble, and that consequently if erection be interfered with sexual desire is also almost entirely prevented. Taking the premises as correct, the subsequent statements in regard to the benefits to be derived from the truss might be thought to be worthy of consideration; but no one who has had much experience with this class of cases would admit these propositions as absolutely true, or even as true in the majority of cases. True spermatorrhœa, as distinguished from the infinitely more frequent condition of sexual hypochondriasis, is a disease attended with loss of tone and with ataxia, and is only rarely characterized by ejaculation or by pleasurable orgasm. Sexual desire, instead of being excessive, is often wanting, and persistent or frequent erections, either as a cause or consequence of that desire, are excessively rare. Nocturnal emissions then, at least of the kind here described, are not in the least

indicative of the existence of this disease, and any report of cases in which the diagnosis was founded on this symptom must be viewed with distrust. We doubt also, from observation of the workings of similar expedients, the probability of any mechanical apparatus encircling and confining the penis exerting a beneficial effect in preventing erection, and have been rather inclined to attribute to them the contrary influence. This, however, is a point to be determined by a practical trial of the instrument, and, as we have not yet had an opportunity of applying it, we simply call attention to its construction, and to the claims which are advanced for it.

A NEW USE OF THE DENTAL ENGINE.—

At the recent meeting of the American Medical Association at Buffalo, Dr. Albert H. Smith reported some successful experiments he had lately made with the burr, rotated by the flexible shaft of Bonwill's dental engine, in the denuding of tissues in the restorative operation of the female pelvis. He claims for it great economy of tissue, in the removal of a slight film, entire control of action in the cutting away of larger masses when necessary, the production of a surface as fresh as if cut with a knife, yet bleeding less, because more superficial than can be made with a knife; also of a surface smooth and uniform in character, giving special facility for close apposition and accurate adjustment, particularly in such operations as Emmett's for lacerated cervix. Either the steel burr or a wheel of coarse corundum stone will answer for denuding.

CORRESPONDENCE.

LONDON LETTER.

IT is commonly said of Englishmen that their talk runs largely on their weather. Probably such statement is no libel, and if they do make the weather a stock subject for conversation, they are probably justified by the eccentricities of their climate. A writer

of fiction once said to me, in reference to the variable summer weather in the hills of the north of England, "I am thinking of commencing a novel, the scene of which will lie in the northern hills, 'It was a bitter August morning;' and, indeed, it may be said of us at present that we are having bleak weather. The consequence is that, instead of summer diarrhoea at the hospitals, we have still winter coughs, old folks with chronic bronchitis and emphysema waiting, with long-drawn-out suffering, for that warm, genial weather which alone can warm them, check the rheum from their bronchial lining membrane, and endow them once more with an approach to the sensations of health and strength. How long the fulfilment of their aspirations will be delayed it seems impossible to say. Not only is such weather bad for the inhabitants, but it makes one bow one's head with shame when an American, newly arrived on our shores for the first time, asks, "Is this your June weather here?" What is left but to explain that usually we have some sun in June, and to apologize abjectly for the inhospitable attitude of our climate?"

One evening lately the British Medical Temperance Association held a conversation at the house of Dr. Edmunds, well known for his energetic activity on behalf of the temperance cause. At this gathering there was read some account of the working of the Temperance Hospital during the four years it has been in operation. From the report read it is certain that the mortality in that hospital is not above the average; indeed, the results attained must be gratifying to the supporters of the institution. As to whether such an experiment can do much towards definitely settling the subject of how far alcoholic stimulants are absolutely essential, or not, to the treatment of disease, and how far the abuse of them may be set against their utility, probably opinions may differ. But the experience of this hospital proves conclusively that many of the major surgical operations may be safely performed, and the after-treatment conducted satisfactorily, without any alcoholic stimulants being administered. On the other hand, this plan of averaging out results is eminently unsatisfactory, as it leaves a margin of doubt as to how far in some particular instances alcohol might have been given with good effects: it makes the general result cover over some items of the greatest interest. Not, be it understood, that alcohol is prohibited absolutely, but it is put down, like other medicines, in a register, and given only medicinally, and not in the promiscuous manner in which it is distributed ordinarily. Of course the patients who present themselves at the Temperance Hospital are, doubtless, as a rule, teetotallers, and, therefore, comparatively good material to work upon, and the hospital has the advantage of being free from those broken-down drunkards who fill a large

proportion of the beds in other hospitals. Thus it will be seen that the problem to be solved is a very complex one, and a number of years must elapse before anything like trustworthy conclusions can be arrived at from this experiment. From the report it would appear that in grave operations "healing by the first intention" is frequently obtained. The tinctures are all prepared without alcohol and by means of glycerine, which is stated to be an excellent solvent and means of extracting the different vegetable principles. The only things which resist it are some gums, like guaiacum, which can be emulsified; so that no practical difficulties are encountered in the preparation of their medicines.

The meeting was enlivened by the presence of some well-known men, who had something to say about abstinence from alcohol under various circumstances. Thus, Mr. Spencer Wells stated that in his operations no alcohol was given unless it was distinctly indicated, and that most of his cases never tasted alcohol either at the time of the operation or during the after-treatment. Then Dr. Rae, the famous Arctic voyager, gave some account of his experiences in frozen regions. He was distinctly against its use in cold climates, and in so far was in perfect harmony with most other authorities. Alcohol is not adapted for great cold, and the Highland gillie who declined a proffered glass of whisky on the plea that it was too cold was doubtless speaking from an instructive experience. Then Froome Talfourd related his experience on the Indian frontier far north, and said that whenever an Indian was found frozen to death in the settlements it was the invariable case that he had taken freely of spirits. Then Admiral Hamilton told how long and strenuously he labored at the Admiralty to do away with the enforcement of the daily ration of rum which used to be issued to our seamen. In fact, a very safe line, not likely to be much controverted, was this, viz., that alcohol does not agree with great heat or great cold. An East Indian surgeon, a teetotaler of many years' standing, testified against arrack and brandy on the plains of Bengal. Altogether the evening was a very pleasant one, and gratifying to those connected with the temperance cause.

This Association consists at present of thirty-five members, none of whom take alcohol in any form. There was a curious fact to be observed about the leaders, and also about the followers, of this movement,—namely, that they were all men of the neural diathesis, with well-vaulted skulls and thin, small abdomens. In fact, they are a body of men who can thoroughly task or overtask themselves without resort to alcoholic stimulants. Tea is their favorite beverage, and, as a rule, these men have fine wives. In fact, their peculiarities are not of their own making, but the product of forces which have been in ac-

tion for generations; their abstinence has been settled for them centuries before the temperance movement was dreamt of. On pointing out this fact to them, at first they winced, but as one after another gathered round, "the type" became so distinctly apparent that they laughed heartily. In fact, they listened quietly to the statement that even the creeds of races have been determined by their physical configuration and their consequent physical inclinations. Thus, our hard-headed, square-abdomened, massive Norse ancestors would go off cheerfully on expeditions where they were away from their women for months, while their paradise was the drinking-hall of Walhalla. On the other hand, the lean, spare, weasel-bellied Arab built up a paradise in which alcohol was unknown, but it was filled with hours. This way of looking at them and their proclivities was received with a good deal of interest, and several admitted the justness of the generalization, while none actively disputed it. In fact, the leading teetotalers, as a body, are just those people for whom alcohol has the least attraction: but in making this statement I do not wish to impugn their earnestness or their philanthropy.

The common yet fatal disease among cattle, known as *pleuro-pneumonia*, has been made the subject of an elaborate research by Dr. Gerald F. Yeo, the accomplished Professor of Physiology at King's College. From this report it appears that the pathological changes can be distinctly traced, though the time has not yet come when the method of infection can be comprehended so as to prevent infection, except by separation and isolation. It appears that the first commencement of the disease is a cone-like mass of inflammation at the surface of the lung. "The chief points are as follows: 1. The bronchial tubes are always diseased in the region affected with the opaque conical form of consolidation and in its immediate vicinity. 2. The mucous membrane is extensively diseased, the epithelium destroyed, and the bronchus filled with a plug. 3. In this region, also, the walls of the bronchus are thickened, and its calibre is diminished. 4. The sheath common to the broncho-vascular system is throughout swollen, rigid, and densely infiltrated. 5. The lymphatics of the entire vascular territory are rendered impervious by dense exudation. 6. In the early stages of the affection the morbid process of the lining of the bronchus is more extensive than that of its wall and surrounding tissue. 7. The walls of the vessels may be implicated, and their lining membrane irritated and damaged. 8. Thrombosis may occur at one or several points of the vessels, and cause the occlusion of some of them. 9. Small emboli may break off from a thrombus, and plug several branches of the artery. 10. The disease seems always to make greater progress in and around the bronchus than

around the corresponding vessels." He does not find that it is the pleura or the subpleural and interlobular tissue which is first affected, but has been obliged to pass to the deeper parts. The pleural inflammation is either localized to the spot affected, or, if the pleurisy has become more extensive, it is much more developed at that point. When the pleurisy is acute in animals, as in men, active constitutional disturbance results; but such is not the case with pleuro-pneumonia. There is in it always evidence of such changes as would require a certain amount of time for their development,—often a longer time than would seem indicated by the clinical history of the animal. Often the animal only manifests symptoms of illness for a few days before death, and changes are found which must have taken some months to develop. It would seem that the local change in the lung goes on for some time implicating the pleura over it, and then, for some reason, the pleura becomes generally inflamed, and then acute symptoms are manifested. He states that he is quite "convinced that the lung disease usually exists for months without being suspected, and invariably the beast is first thought to be sick only when the affection has spread to the pleura and caused intense inflammation of that membrane, with its accompanying well-marked symptoms." If the diagnostic powers of veterinary surgeons were improved, cases of pleuro-pneumonia without pleurisy would be more frequently met with.

In asserting that the pleural lesion is secondary to that of the lung he takes care to avoid implying that the lung-parenchyma cannot, under any circumstances, become secondarily affected from the pleura covering it. It was seen that nothing is more common than this spreading of the disease from the pleura to the adjacent tissue. The infective process may be communicated from the primarily-affected lobe to its neighbors by means of the intervention of the pleura, and in these cases the pleura does seem to be the starting-point for those lobes thus secondarily affected. But if the primarily-affected lobe be carefully examined, it will always be found to contain a wedge of typical marbling extending towards the root of the lung, with the bronchi and vessels diseased in the manner described. In this deep-seated, conical, indurated region the morbid process is more developed than elsewhere, and it is such centre, he believes, that forms invariably the original point of disease. One such focus, at least, can always be found in some one or other part of a diseased lung, however extensive the wide-spread, shallow pleural infection may be. He holds it impossible to explain this chronic, old, indurated part of the lung disease as a result of the acute recent pleurisy. He thinks there is no difficulty in explaining the pleuritis as the result of the lung injury.

Putting aside the existence of any specific

form of infective material, the irritation and inflammation of the pleura may be explained by the mere mechanical injuries done to the membrane by the swelling of the subjacent lung during the disease. To this exciting cause may be added defective lymph-drainage and impaired blood-supply. When there is hemorrhagic infarction—which is very common—there is no difficulty; the pleura may be torn, or some blood may escape into its cavity and set up general inflammation, and the part of the membrane corresponding to the infarction is always cut off from its supply of normal nutrition. The commencing-point is the chronic inflammation of the connective-tissue sheath of the broncho-vascular system, which is followed by great thickening of the walls of the vessels. Around the starting-point there is an area of clear exudation by the bronchial lymphatics by means of the pleura. The lymphatics of the part primarily affected are in connection with the pleura over the part, and from the pleural surface the bronchial lymphatics of adjoining lobules are involved. The clear exudation is always more wide-spread and superficial, less solid and less defined, than the opaque induration. The tissue-elements remain normal even after the exudation has become intense. The vessels and air-passages are pervious and little altered. It might be described as intense inflammatory oedema, while the other might be described as croupous inflammation. From the distribution and relations of this clear exudation it appears certain that it is the result of infective action spreading, by means of the lymph-vessels, from the inflamed pleura and along the broncho-vascular system.

On examination of an isolated cone of dense pale induration three important facts become obvious: first, that the air-cells are filled with croupous exudation; secondly, that the bronchial tube and its branches are plugged with a dense, adherent, fibrinous mass; and, thirdly, that all the lymph-vessels around these air-tubes are swollen and turgid, being the seat of a dense, fibrinous exudation. The occlusion of the bronchus and the engorgement of the lymphatics immediately surrounding it must be the cause of the lobular consolidation and the interlobular exudation. This view is borne out by the peculiar localization, the sharp demarcation, and the conical shape. The lymph-plexuses once become the seat of irritating exudation, the spread of the disease is achieved, a chronic destructive inflammation is set up locally from the presence of infective material, which also travels along the lymphatics towards the root of the lung. The inflammatory process, being upon the tributary broncho-vascular systems, chokes their lymph-passages, and thus produces interlobular exudation throughout the territory from which they come. The disease spreads through the lung by means of the peribronchial lymph-vessels on the one hand, and

those under the pleura on the other, the former leading the infective process to the root of the lung, the latter extending it over the surface of the organ.

As to the starting-point in the bronchial mucous membrane, from whence it spreads to the peribronchial connective tissue, it is the least clear of all the process. It is quite possible, Prof. Yeo thinks, that a beast in sniffing the fodder of a diseased neighbor may draw into its air-passages some of the dried discharge, and thus infect its bronchial mucous membrane, and get pleuro-pneumonia; though it is not possible to start it by inoculation under the skin or into the vessels of infective material procured from a diseased lung. Whether there is any special virus which acts as the specific cause of this disease, or not, cannot yet be affirmed: it is left for experimental inquiry to determine. At present no proof exists of such a morphological representative of an infective material. He concludes by saying, "If asked to give a pathological definition of pleuro-pneumonia, I should say that it was a chronic, specific local disease, starting in the bronchi, and insidiously implicating the parenchyma of the lung by occlusion of the bronchi and inflammation extending along the lymphatics; the other organs and the blood possessing a singular immunity from the specific contamination. It is not accompanied by constitutional symptoms, and only gives obscure physical signs. At any time during the progress of the disease its existence may be manifested clinically by the occurrence of complications—acute pleurisy or hemorrhagic infarction with pleural complications—which excite high fever with functional derangements." So much for this careful inquiry, which puts well what we know and what we do not know: still, it is a matter for question whether such inquiry will place us further forward with any treatment that is likely to be operative or not. There is a possibility that such minute observation of morbid processes may, taken along with the light now being thrown on the physiological action of drugs, lead to useful, practical results.

The observations of Gowers and Coats on hydrophobia, that the white blood-corpuscles travel through the walls of the blood-vessels freely, together with those of Binz, that quinine arrests such movements of white corpuscles, have led to the employment of quinine in large doses, together with bromide of potassium, in at least one case of hydrophobia, with the effect that while one of the persons bitten by the same dog has died, a second who was taken ill a few days later was put on this plan of treatment, with the effect that seven days after active symptoms had set in he was not worse, but alive, and even somewhat better. It will not do for me here to allude further to what is being

done by the commission to inquire into hydrophobia; but there are good grounds for believing that really valuable results will follow from the present careful examination into the maladies of animals, and those in man caused by animals.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MARCH 14, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Cystic sarcocele of testis. Presented by Dr. COMEGYS PAUL.

THIS specimen was removed from No. 8684, a convict incendiary at the Eastern Penitentiary. He is 34 years old, of a scrofulous tendency, but enjoys good health. Fourteen years ago he had an attack of gonorrhœa, during which he slipped and strained himself violently while playing a game of ten-pins. Swelling and pain in the left testicle followed, with which he was confined to his bed for a week. The testicle has never been in healthy condition since, and it has received several injuries from kicks, blows, etc., in the mean time. It has been enlarged and growing slowly during the whole of this period, but has never occasioned much pain, until the last fifteen weeks, when it assumed a dull aching character, which extended to the lumbar region. Because of this excessive discomfort I removed it, with the assistance of Dr. E. C. Hines, on the 7th instant.

He has been in good and comfortable condition since the operation. Two ligatures were required, neither of which has as yet come away.

A case of heart-disease, followed by apoplexy.

Presented by Dr. F. TURNBULL.

J. L., aged 38 years, laborer, admitted January 24, 1878, to the Presbyterian Hospital. On admission, the following history was obtained. With the exception of slight rheumatism in the right shoulder, he had never been sick until three months ago, when he noticed that while lifting he became giddy and short of breath. He thought he had been obliged to micturate oftener than natural for several years. He also noticed that his feet swelled at night since he had felt unwell. Family history fair.

Examination.—*Heart*, region of cardiac dulness larger than normal. Impulse diffuse. A loud systolic cooing or musical sound; best heard to the outer side of the position of the apex. A less-marked systolic blowing sound,

best heard at the second right intercostal space.

Pulse (radial) weak, and could not be felt when the arm was raised above his head.

Urine, not albuminous.

On the night of the 4th of March he called the night-nurse to him and asked for something to move his bowels, complaining that he had a splitting headache. He was helped into bed by the nurse, who noticed that his legs seemed powerless. The nurse then came to me, saying that the man wanted a cathartic, and I ordered two comp. cath. pills. These were given him, and the nurse left the ward for a minute, but was called back to find the man lying in bed helpless and breathing in a peculiar manner. This was at midnight. I was immediately called, and, on seeing him, found that his breathing was stertorous, the pupil of his left eye dilated and that of his right eye contracted and sluggish. All his limbs except the left arm seemed paralyzed; but on pricking the soles of his feet slight movements of the toes took place.

His pulse was regular, pretty full, and about eighty a minute. His carotids were throbbing. His face was flushed and hot.

About eight ounces of blood were taken from his arm, with temporary relief. Mustard-plasters were applied to his feet, and two drops of croton oil placed on his tongue. At two o'clock A.M. the temperature in the right axilla was 99° ; in the left axilla, $88\frac{4}{5}^{\circ}$.

At three o'clock A.M., $102\frac{1}{2}^{\circ}$ in right axilla, and $101\frac{1}{2}^{\circ}$ in the left axilla.

He died at 3.40 A.M.

Post-mortem examination.—*Heart.*—Hypertrophy of left ventricle, its walls being $\frac{3}{4}$ inch thick. The weight of the heart was one pound. The pulmonary valves were about normal. The aortic valves were replaced by vegetations constricting the orifice. The mitral and tricuspid valves were both thickened and contracted. No evidences of pericarditis found.

Lungs.—Old firm pleural and pleuro-pericardial adhesions of right side.

Brain.—On opening the dura mater, a large clot was found between it and the arachnoid, compressing the left hemisphere considerably. It covered the anterior and middle lobes entirely. A smaller clot, also superficial, was found over the anterior lobe of the right hemisphere. There was a small clot, separating the cerebral hemispheres, in the anterior half of the longitudinal fissure.

On examining the base, the clot of the left side was found to extend down in front of the medulla and backwards beneath and above the tentorium cerebelli, so that the two masses of the cerebellum were separated a little by it. The middle and posterior fissure of the skull on both sides contained some of the clot.

The origin of the hemorrhage was found to be in the situation of the left posterior cere-

bral artery at about the middle of its course. The brain-substance was ruptured at this place. The wound was in the posterior lobe of the left hemisphere, and its opening at the base about two inches in diameter. The pia mater and arachnoid were torn through, and the blood had forced its way into the lateral ventricle of that side, filling it entirely. In the posterior corner of the right lateral ventricle was a small clot which extended anteriorly in diminished size; veins of the surface of the brain congested.

There was a lymphatic tumor of the neck just below the jaw, on the left side, which might have pressed on the jugular veins. It seemed, however, during life to be perfectly movable. It was not thought necessary, at the post-mortem examination, to dissect it.

Case of fracture of the femur in an infant.
Presented by Dr. O. H. ALLIS.

J. K., eighteen months of age. About two weeks before its death, the mother noticed that the child cried violently when she attempted to put on the right shoe. A week later I saw the child once, and examined the ankle, knee, and hip, and did not detect any unusual symptoms. The child cried, but not worse than when I examined the left limb or the abdomen. The child had a slight cough, was teething, and its urine was dark and turbid. There was no physician in attendance, but just before its death a neighboring physician was called in.

Autopsy twenty-four hours after death. The viscera in the abdominal and thoracic cavities gave no clue to the cause of death. The mesenteric glands were considerably enlarged, and the ribs at their sternal extremities were markedly rounded and enlarged.

On examining the right femur I found a fracture of the neck, with loss of substance, and also a separation of the condyloid epiphysis with the periosteum, separated from the shaft nearly to the middle of the bone. The extremity of the shaft was injected, and there was evidence that blood had been effused beneath the periosteum. There were no traces of inflammatory change, and it is therefore not easy to state at what time the fracture of the neck or the separation of the epiphysis took place. There was, however, abundant evidence that it took place prior to death.

On examining the left limb, the neck of the femur was found to be intact, but a partial separation at the condyloid epiphysis was detected, without, however, any evidence that blood had been effused.

The mother thinks that the origin of the difficulty may be traced to a traumatic injury, viz., to an older sister (one three years old) sitting upon the body and thighs of the babe about two weeks before its death. Had this been the origin of the difficulty, there could scarcely be an entire absence of effort on the part of nature to repair the injury.

REVIEWS AND BOOK NOTICES.

INJURIES OF THE EYE AND THEIR MEDICO-LEGAL ASPECT. By FERDINAND VON ARLT, M.D., Professor of Ophthalmology in the University of Vienna, Austria. Translated, with the permission of the author, by CHAS. S. TURNBULL, M.D. Claxton, Remsen & Haffelfinger, Philadelphia, 1878.

Of the galaxy of ophthalmological stars in Europe, Dr. Ferdinand von Arlt has shone as one of the brightest for many years. Von Graefe, Arlt, and Donders were at one time the great triumvirate that led the world on the subject of ophthalmology. So now anything that is written by Professor Arlt cannot be otherwise than good. The contents of the little book before us, with the above title, are of the first order,—interesting to any physician, whether specialist or not; although to the specialist there is nothing new. We are surprised, however, to see that the eminent author completely ignores the existence of the fine work on *Injuries of the Eye*, by George Lawson, F.R.C.S., London, 1867; for in a note (p. 14) he says, "I am only acquainted with two [works on *Injuries*, etc.], that of W. Cooper and that of Zander & Geissle."

The contents are divided into four chapters: the first on compression or concussion of the eyeball, with the different forms of injuries sustained thereby; in which are included contusion of the cornea, rupture of the eyeball, rupture of the inner tunics, dislocation of the lens, etc. Chapter II., on wounds of the eyeball, in which are to be found instructive and interesting articles on foreign bodies in the eye, and the dangerous symptoms of sympathetic ophthalmia. Chapter III., on scalds and burns. Chapter IV., feigned or artificial affections of the eye.

As a general thing, the book is very well translated; but there is the introduction of a few peculiar words which are either obsolete or taken from the German and do not express exactly the same meaning in English, while we have good English words that would answer better.

We are also surprised at the introduction by the translator of the history of a case as a note to page 150, in which he appears to indelicately cast a slur on a *special hospital* and its *staff* and on a *leading oculist* in this city, to the praise of himself. As he is only the translator and not the editor, he is not justifiable in introducing any extraneous matter in the book. If he claims to be the editor also, and the right to introduce other illustrative cases, we regret to see that he has not done his work better, and inserted some of the many interesting and instructive cases that have been published in the journals since Dr. Arlt issued his book.

The book is beautifully gotten up,—good paper and type,—well bound; but the super-

scription on the back is a great mistake, looking as if it were the work of the translator instead of the author.

The work should be well read, and should be in the library of every physician, for no one knows when he may be called to attend a case of injury to the eye which may require testimony before the courts.

A MANUAL OF OPERATIVE SURGERY. By LEWIS A. STIMSON, B.A. (Yale), M.D. Philadelphia, Henry C. Lea, 1878, pp. 468.

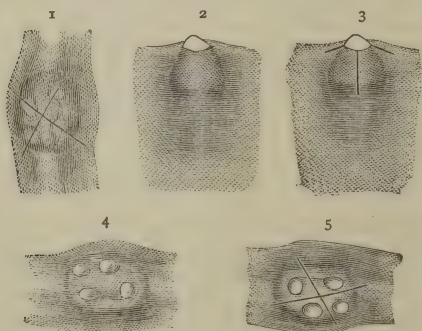
This little book is an excellent condensation of the principal methods in use in operative surgery. The author, who is the translator of Gosselin's *Clinical Lectures on Surgery*, has avoided the confusion arising from too much minuteness of detail in description condemned by Mr. Syme—quoted in the preface—as "the fiddle-faddle instructions not only for using but even for holding the knife, which sufficiently denote the poverty of the intellect from which they proceed, and the lowliness in aspiration to which they are addressed." On the other hand, everything may be found which should be contained in a manual intended for hasty reference on the part of the practitioner and for the use of students. The portions on the ligation of arteries and on amputations are the best to be found in English in any work of the same size, and are exceedingly well illustrated. The defects and omissions are of minor importance. In describing the operations for the radical cure of hernia, no mention is made of Dr. D. H. Agnew's or of Dr. McDowell's methods. Internal urethrotomy is not alluded to, and external urethrotomy is rather insufficiently described. One or two trifling modifications of the operation for phimosis are detailed, but the excellent plan of Dr. Harrison Allen, described by him in this journal, is not included. Of course, however, these and other omissions noticeable in glancing over the book are to a certain extent a necessity of its small size and compactness, and as a whole it may be considered to merit our cordial approval as a creditable addition to this class of books.

GLEANINGS FROM EXCHANGES.

PATHOLOGICAL DENTITION (*The Obstetrical Journal*, April, 1878).—Dr. James W. White, in an article on this subject, calls attention to the significance of the mouth as a seat of pathological change because of its complex structure and associations and its rich nerve-supply, especially during the formative and eruptive period of dentition. Dentition, though a physiological process, is one of continuous irritation, and is subject to deflections which frequently place it in the domain of pathology. Purely normal dentition depends upon an absolute accord between the processes of growth and absorption, as well of the crypt as of the

mucous membrane covering the tooth. Increased pressure, or an advance of the tooth more rapid than the absorption of the superimposed tissues, gives rise to congestion, induration, and ulceration of the gums. The most serious complications in such a case are, however, caused by the backward pressure of the resisting gums upon the nervous and vascular supply of the pulp, giving rise to exquisite pain, fever, nausea, diarrhoea, convulsions, and other serious lesions, many of which, as strabismus or epilepsy, remain throughout life. That this pressure is the cause of such troubles is proven by their prompt disappearance after the gums are lanced. It follows, therefore, that it is not necessary to wait for the appearance of trouble about the gums before resorting to the operation. When this operation is performed, it should be remembered that the object is to remove tension. The cuts, therefore, should be made with special reference to the form of the presenting teeth. The incisors and cuspids need only a division in the line of the arch. The molars require a crucial incision, the centre of the crown as near as can be determined indicating the point of decussation. The cut should reach the presenting surface of the tooth. Partial eruption, especially of the cuspids and molars, does not decide against the necessity for lancing, the conical shape of the former causing a persistence of the trouble, and fibrous bands offering resistance in the case of the molars after the eruption of the cusps. Persistent bleeding, which rarely occurs, may almost always be controlled by powdered alum.

The following cuts represent the incisions which should be made over the different teeth: No. 1, molar; No. 2, partial eruption of a canine; No. 3, the incisions in such a case; No. 4, partial eruption of a molar; No. 5, the incisions in such a case.



Dr. White alludes to the severe suffering often attending the delivery of the lower third molars, especially when they erupt close to or partially under the coronoid process, as they not rarely do, and mentions difficult and painful mastication and deglutition, abscess, necrosis, amaurosis, otalgia, tonsillitis, aphonia, chorea, tetanus, and even death, as

among the recorded results. The principle and method of treatment in such cases are the same as in the troubles of infancy arising from pathological dentition. He concludes by advising that at six, at twelve, and at seventeen years of age, or until the wisdom teeth are fully erupted, the mouths of patients suffering from eye or ear trouble, or from any abnormal condition not otherwise explainable, should be inspected, and dentition should be counted as a possible factor.

A SIMULATED STIGMA (*Lancet*).—In the last volume of the Reports of the Vienna Hospital, Dr. Szigmondy relates the case of a young woman who simulated symptoms of the Louise Latour type. She was twenty-two years of age, and strongly built, and an ulcerating scar in the middle of the left hand had resulted from a wound received a year before. It was asserted that every month at the catamenial period the cicatrix opened, and bled for several days. On admission, a superficial ulcer, covered with coagulated blood, lay in the middle of a somewhat larger scar, surrounded by bluish-red staining, which extended over the greater part of the back of the hand. It had the aspect of an old injury, although the patient denied any traumatic influence and attributed the whole to vicarious menstruation. The hemorrhage was going on when the patient was admitted, and recurred during an expected menstrual period. Under treatment the ulcer improved slowly, being transformed into a bright-red, granulating sore; but in spite of every means employed it would not heal. At the time of menstruation, recent hemorrhage was found upon the dressings, although no escape of blood could be detected on watching the open surface. The patient was therefore closely watched to see if with a needle or any other means she produced the bleeding, but without detecting any fraud, although the hemorrhage continued. A plaster-of-Paris bandage was therefore arranged in such a manner as to enclose the whole hand and effectually to prevent any tampering with the wound. It was so secured by other bandages that any attempt at reaching the ulcer would be immediately detected. The ulcer henceforth rapidly healed, and the hemorrhage did not recur. This disposes of yet another of the rare cases of vicarious menstruation.

TREATMENT OF ENLARGED PROSTATE (*New York Med. Jour.*, p. 394, 1878).—Dr. Satterthwaite says it has been found desirable in the practice of the Demilt Dispensary to adopt a method of treatment for enlarged prostate, obviating the use of any instrument, as the patients are generally unable to buy one. A certain amount of relief is obtained by the fluid extract of buchu, or of triticum repens, when the secretion is turbid or acrid; but their efficacy is, of course, slight when unaccompanied by the introduction of the soft catheter. It was his good fortune to try the

effect of the fluid extract of ergot in large doses for these case, she being tempted to do so by the success he had obtained from it in treating a case of simple incontinence without enlarged prostate. The treatment proved successful, and is now a standard one in the surgical department of the Demilt Dispensary. The following case will show how it acted. A laborer, aged twenty, had suffered ten or eleven years from dribbling of urine. His troubles being much aggravated of late, he applied for relief, when a catheter was introduced, relieving his bladder. The patient was at once put upon the fluid extract of ergot in teaspoonful doses, to be taken three times a day. Previously, he had passed water with extreme pain and difficulty seven or eight times a day and from four to five times at night. He experienced great relief from the ergot.

Three weeks later he reported that his water was passed only five times a day and twice at night. The water was clear, and there was but little pain in passing it.

Dr. Satterthwaite says, "In cases where the patient can buy the soft elastic catheter (Nélaton's), it is recommended, with directions to use it twice or three times daily. This treatment may be combined with the use of ergot; but ergot alone has been found of great advantage, the patients returning at regular intervals to have their medicines renewed."

THE INTRA-VEINUS INJECTION OF MILK AS A SUBSTITUTE FOR BLOOD (*N. Y. Med. Jour.*, May, 1878).—Dr. T. Gaillard Thomas concludes an article on this subject as follows:

1. The injection of milk into the circulation in place of blood is a perfectly feasible, safe, and legitimate procedure, which enables us to avoid most of the difficulties and dangers of the latter operation. 2. In this procedure none but milk from a healthy cow within a few minutes of the injection should be employed. Decomposed milk is poisonous, and should no more be used than decomposed blood. 3. A glass funnel with a rubber tube attached to it, ending in a very small canula, is better, safer, and more attainable than a more elaborate apparatus, which is apt, in spite of all precautions, to admit air to the circulation. 4. The intra-venous injection of milk is infinitely easier than the transfusion of blood. Any one at all familiar with surgical operations may practise it without fear of great difficulty or failure. 5. The injection of milk, like that of blood, is commonly followed by a chill and rapid and marked rise of temperature; then all subsides, and great improvement shows itself in the patient's condition. 6. I would not limit lacteal injections to cases prostrated by hemorrhage, but would employ it in disorders which greatly depreciate the blood, as Asiatic cholera, pernicious anæmia, typhoid fever, etc., and as a substitute for diseased blood in certain affections which immediately call for the free use of the lancet, as puerperal convulsions, etc.

7. Not more than eight ounces of milk should be injected at one operation. 8. In conclusion, I would suggest that if milk answers, not as good, but nearly as good, a purpose as blood under these circumstances, its use will create a new era in this most interesting department of medicine. That it will answer such a purpose, I am convinced from lengthy consideration and some experience of the matter, and I would be false to my own convictions if I did not predict for "intra-venous lacteal injection" a brilliant and useful future.

THE GASTRIC JUICE (*The Clinic*, June 15, 1878).—Dr. Charles Richet has investigated the gastric juice in the case of a boy with impermeable stricture of the œsophagus and who had been operated upon by Verneuil. He obtained the following results:

1. The acid of the pure gastric juice, as well as that mixed with nutritive substances, amounted to one part of hydrochloric acid to one thousand of the fluid.

2. At the end of digestion, the acid increases and remains independent of the amount of fluid nutriment taken. Alcohol increases the acidity, cane-sugar diminishes it.

3. After the introduction of acid or alkaline substances into the stomach, the gastric juice always exhibits a tendency to return to the normal degree of acidity.

4. The average duration of digestion is three, at most four and a half hours. The food is not expelled irregularly, as was formerly believed, but as it were *en bloc*. The pylorus opens as soon as the stomach contents have received the proper physical and chemical preparation.

5. Several careful examinations by Schmidt's method demonstrated the free presence of hydrochloric acid in gastric juice.

6. By a certain complicated plan, all the lactic acid contained in the stomach may be extracted, and its proportion to hydrochloric acid is found to be as 1:9.

7. By Bertholet's test,—that is, shaking it with anhydrous ether,—it can be shown that lactic acid also occurs free in the gastric juice.

STRUMA AND SYPHILIS (*The Medical Record*, June 22, 1878).—At the meeting of the American Medical Association Dr. Storer read a paper on this subject, and stated as demonstrable the following propositions:

1. Syphilis, like other toxæmia, was more prone to become constitutional in the strumous than in the perfectly healthy subject.

2. Struma the result of syphilis was comparatively seldom recognized during life, and still more infrequently received appropriate treatment.

3. Syphilitic struma, personal or by heredity, was in no sense self-limited.

4. Predisposition to syphilis by heredity, both of itself and as affected by struma, was much more frequently intense than is generally supposed.

5. Transference of primary syphilis, sometimes by perfectly healthy women who were entirely free from specific disease, was an element not to be overlooked in discussing syphilitic struma.

Dr. Storer believed that a sufficient number of perfectly healthy women could transfer the contagion to keep up the disease indefinitely. He also maintained that consumption was caused by syphilis; that the contagiousness of phthisis was established; that syphilis was never entirely eradicated from the individual; and that it was possible to diagnose between syphilis and struma by means of the microscope.

NOTES AND QUERIES.

UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT, PHILADELPHIA, June 15, 1878.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—There has come to my notice an anonymous circular entitled "Higher Education in the University of Pennsylvania," which contains statements which are erroneous and misleading. Without going into details as to its contents, its object is to show that the graduate of the Dental Department of the University of Pennsylvania can obtain the degree of Doctor in Medicine "for an expenditure of less money than is exacted from those who matriculate in the Medical Department," and "by attending two partial courses in Medicine in the Dental Department and one full course in the Medical Department." The paragraph in the advertisement in the *American Journal of the Medical Sciences* would, perhaps, admit of such interpretation, but it was introduced without due consideration, immediately after the institution of the Dental Department, and before its complete organization. In the announcement of the Dental Department, and on the last page of the third edition of the announcement of the Medical Department, it is stated that the dental student desiring to take the medical degree must inform the Secretary of the Department of Medicine of such intention at or before the beginning of his second course of lectures. The object of this is to modify the second course of the dental students so that it may become a full medical course, including Practice of Medicine, Surgery, and Obstetrics, as well as a dental course. The fees for the last two courses have also been altered for such candidates, so that the dental graduate who takes the degree in medicine also pays \$475, while the student taking the medical degree only pays \$445.

It would have given me pleasure to have explained the matter to the author of the circular had he called upon me in relation to it, thus saving him some trouble and expense.

JAMES TYSON,
Sec. Faculty of Medicine, University of Pennsylvania.

SARATOGA SPRINGS, N.Y., June 19, 1878.

EDITOR MEDICAL TIMES:

DEAR SIR,—The Saratoga County Medical Society, at their annual session, held on the 4th inst., unanimously adopted the following preamble and resolution:

Whereas, There are certain members of the regular profession now in good standing in the State Medical Society, as well as in the county societies, who annually visit Saratoga Springs for the purpose of practising medicine and by their questionable measures in seeking practice to the detriment of local resident physicians, therefore be it

Resolved, That we, as members of the County Medical Society of Saratoga, do condemn the practice above mentioned, as contrary to the spirit of our Code of Ethics.

Very respectfully,

C. C. BEDELL, Secretary.

PHILADELPHIA, June 24, 1878.

EDITOR PHILADA. MED. TIMES:

DEAR DOCTOR,—In your report of the proceedings of the American Medical Association during its late session at Buf-

falo, you refer to the case of goitre stated to have been cured by a single subcutaneous injection of ergot, by Dr. C. N. Palmer, of New York, and state that similar cases were reported by myself. The case presented by Dr. Palmer was, if goitre, of the cystic variety, whereas the one especially referred to by me, out of a number, was a case of fibrous bronchocele. My treatment comprised thirty-nine injections, —thirty minims each,—extending over a period of seven months. From considerable observation, I strongly doubt the cure of the disease by any rapid method of treatment, excision excepted. I have had small tumors disappear under electrical treatment in a period of three months, but I do not believe that any method will disperse a growth the size of a large hat, as reported by Dr. Palmer, in the time stated or by the means employed.

Very truly yours,

WM. R. D. BLACKWOOD.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 16 TO JUNE 29, 1878.

TOWN, F. L., MAJOR AND SURGEON.—Granted leave of absence for eight months, with permission to go beyond sea. S. O. 128, A. G. O., June 13, 1878.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 47, Division of the Missouri, June 14, 1878.

BENTLEY, E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 74, Department of the Gulf, June 12, 1878.

TAYLOR, M. K., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for four months' extension and to go beyond sea. S. O. 123, Department of Texas, June 13, 1878. Leave to take effect June 20, 1878. S. O. 128, Texas, June 19, 1878.

HEIZMANN, C. L., CAPTAIN AND ASSISTANT-SURGEON.—To proceed by C. P. R. R., on 10th inst., to Elko, Nev., and report to Capt. Thos. Byrnie, 12th Infantry, for duty with his command. S. O. 82, Division of the Pacific and Department of California, June 8, 1878.

GIRARD, A. C., CAPTAIN AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Crampton, to proceed to Fort Keogh, Mont., and report to the commanding officer for duty. S. O. 72, Department of Dakota, June 14, 1878.

CORSON, J. V., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Whipple, A. T. S. O. 64, Department of Arizona, June 13, 1878.

HALL, J. D., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Stockton, Texas. S. O. 124, Department of Texas, June 14, 1878.

AINSWORTH, F. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany Co. B, 8th Infantry, from Fort Whipple to San Francisco, and upon completion of this duty, return to proper station. S. O. 64, c. s., Department of Arizona.

MERRILL, J. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month on surgeon's certificate of disability. S. O. 126, Department of Texas, June 17, 1878.

HALL, W. R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany the troops leaving Fort Canby, June 4, for field service. S. O. 65, Department of the Columbia, June 3, 1878.

CRAMPTON, L. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Randall, D. T. S. O. 72, c. s., Department of Dakota.

SPENCER, W. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Townsend, to proceed to Fort Boise or vicinity, and report to the chief medical officer on duty with troops in the field. S. O. 65, c. s., Department of the Columbia.

Having passed a satisfactory examination before the Army Medical Board, in session in New York City, N.Y., the following gentlemen have been appointed Assistant-Surgeons, U.S. Army, by the President, to date from June 6, 1878, and confirmed by the Senate: Victor Biart, W. W. Gray, Louis Brechemin, and Louis A. La Garde.

PHILADELPHIA, JULY 20, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON ASPIRATION IN COMPLICATED CASES OF PLEURAL EFFUSION.

Delivered at the University Hospital

BY WILLIAM PEPPER, M.D.,

Professor of Clinical Medicine in the University of Pennsylvania Medical School.

(Reported for the *Philadelphia Medical Times*.)

THE first case is that of W. M., a cabinet-maker, who had always been strong and healthy (weighing one hundred and sixty pounds) until January 1 of last year, when he had a sudden attack of fever in the night, which confined him to bed for some time. When he at length got out of bed he found himself very short-winded. Soon afterwards he began to notice a tender spot situated at about the end of his breast-bone. He supposed at the time that this was caused by pressing the head of his brace and bits against his chest in boring, etc. He blistered the spot, and six weeks later it pointed, was opened with a lance, and discharged pus quite freely, and has continued to do so. From that time on the patient began to lose flesh; now he only weighs one hundred and fifteen pounds. Four weeks after the abscess opened, his feet and hands began to swell, and they have remained swollen ever since. You notice how distinctly the ends of the man's fingers are clubbed. The veins of his abdomen are large and tortuous. He has, however, had no cough until quite recently, the early part of April. Upon closely questioning the man, I find that he knows of no exposure and of no injury received at the time of the first attack. He has now been suffering pain for the past sixteen months. In addition to the local trouble he complains of pain about the shoulders and under the arm. There is no loss of power in his right arm, but it is stiff about the shoulder. Soon after the opening of the first abscess another formed, which was lanced last summer. I will now proceed to make a careful physical examination of the patient.

Over all the anterior part of the right lung there are good resonance and good respiratory murmur. The same is true

posteriorly. Upon examining the left lung posteriorly, I obtain full, clear, pulmonary resonance and vesicular murmur. As soon, however, as on coming forward I get into the axillary region, I elicit perfect flatness from top to bottom of the axilla. Over the anterior part of the left lung there is also perfect flatness right up to the clavicle, and down towards the lower part of the chest, where I get the resonance of the distended stomach. There is also marked distention with absolute immobility of the anterior part of the left chest. The respiratory sounds are entirely absent over the dull area, and the vocal fremitus and resonance are also almost entirely absent.

The two fistulous openings, one on either side of the xiphoid cartilage, still discharge pus. It is not possible to pass a probe from one into the other, or from either into the cavity of the thorax. The probe can be introduced inwards, upwards, and to the left for a comparatively short distance, when the track becomes sinuous and cannot be followed. There is a distinct pulsation in the fifth interspace, in the position of the apex-beat of the heart.

There is evidently something which distends the chest and presses the lung back. The dulness of the left side is prolonged slightly beyond the right border of the sternum. This something which has pressed back the lung is evidently not free to move, as change of position makes no change in the area of dulness. Is the tumor solid, or liquid? Solid tumors are not rare in the chest. But a few hours ago I removed from a dead person a twelve- or fifteen-pound cancerous mass from the right chest. We might have something of the same sort here springing from the glands of the mediastinum, or, again, there might exist in this man a large aneurism implicating the anterior and inferior portions of the arch of the aorta.

It is certainly not an aneurism. The position would be a very rare one, and furthermore I can only detect a very feeble pulsation, and that is from the heart. There is no aneurismal bruit to be heard. Again, the disease did not come on slowly, as would be the case with an aneurism, but at night and in the shape of an acute attack of fever.

Unfortunately, we cannot exclude the possibility of a solid growth on account

of its comparative rarity in such a place. The strongest points against the existence of such a solid tumor are the acuteness of the trouble, the absence of any secondary growths, the absence of any signs of pressure upon the trachea or bronchus, and the development of two centres of sup-puration. I do not think it is a solid mass.

Can it be a pleural effusion? If so, it presents some very unusual features. In the first place, no connection can be traced between the fistulæ and the pleural sac. The amount, too, of pus discharged is very small. It is exceedingly rare for an empyema to discharge at the xiphoid cartilage. Much more frequently it discharges at or about the nipple. The absence of cough and expectoration for sixteen months is also unusual. I have already noted the fact that there is a visible impulse at the normal seat of the apex, but, as we cannot absolutely determine the question whether this formation is solid or liquid, I am reduced to the necessity of making an exploratory puncture. I shall first freeze the part, and then introduce a very small needle. In so doing I shall give the heart a very wide berth.

The best way to make an exploratory incision is to connect a capillary needle with a very strong vacuum. Insert the needle under the tissue, and then turn on the suction so that you may get immediate warning in case you reach liquid of any kind. (The spot chosen was frozen, and a needle inserted as above directed.) You will observe that at first the needle meets with resistance, such as could be caused by a solid tumor or by great thickening of the pleura, and I get no liquid; but let me push the needle a little farther. Yes; here drops of thick pus fall into the receiver, and at once settle the disputed point. There is evidently a large circumscribed collection of pus in the left chest. The heart is displaced to the right. What appeared to be the apex-beat on the left is the impulse of the heart transmitted through the pus. The real apex-beat of the heart is probably just to the right of and above the epigastrium. In some rare cases of circumscribed empyema, the transmitted pulsation from the heart or the aorta may closely simulate an aneurism.

Usually, where there is a collection of purulent fluid in the chest, it finds its way out at about the position of the nipple, the

liquid, according to the law of least resistance, finding egress where the least resistance is offered,—where the ribs are most widely separated and the intercostal spaces are weakest. Thus, in the present case I have no doubt that the pleura has been perforated pretty high up, and that the pus after getting into the thoracic walls has burrowed all the way down to the xiphoid cartilage. This is the reason why I could not discover by the probe the path which had been followed by the pus.

In connection with this empyema there might be caries of the sternal bone in front and behind; but this is not the case, I should think, for in such an event the abscess would be limited by the mediastinum, or if it had burst into the left pleural sac there would be a sudden and serious train of symptoms.

I want to call your attention to some effects which have followed the prolonged interference with the man's respiration. (These effects are more marked on the left than on the right side.) The cutaneous veins are greatly distended. The intercostal spaces are level, but there is a distinct bulging of the upper ribs on the left side. There also seems to be an enlargement of the lower end of the ulna and radius, and a remarkable degree of clubbing of the finger-ends. This latter change is not characteristic of any one form of chest trouble, but is generally present where there is chronic venous congestion and interference with the aeration of the blood. We constantly see this clubbing in aneurism, cyanosis, phthisis, and chronic pleurisy.

So long as this fluid is allowed to remain *in situ*, the patient will be worn down by hectic. I have, therefore, while talking to you been engaged in drawing it off, and have removed about two quarts through a moderate-sized canula, introduced at the same point where I first introduced the exploring needle.

Will this operation effect a cure? I do not know about this, but it certainly cannot do any harm: it certainly cannot make the man any worse than he is. It will not, indeed, prevent the formation of new matter in the cavity, for as a general thing new matter always forms after the first aspiration, but usually only in small quantities.

What will be the subsequent treatment? I will close up the opening and put the patient to bed. If by good fortune the

fluid does not collect again, all will be well; but, if it does collect, I shall again perform aspiration. If the quantity is as great the second time as the first, I shall introduce a drainage-tube.

(The fluid collected again in large quantities, and was again withdrawn, and a drainage-tube introduced. After the introduction of the tube the patient improved rapidly, and was soon well enough to go home. On July 1 the drainage-tube was removed, all discharge having ceased. He has gained sixteen pounds; is quite strong; eats well; has no cough, no pain. The physical signs indicate rapid expansion of the left lung.)

The above case was a successful instance of aspiration. Here is one where the very opposite will, I fear, be the result:

The patient is a medical student, aged 33. There has been no history of phthisis in his family: he is, in fact, the only member of it who is at all delicate. He has never had any cough to speak of until within the past year or so. He was perfectly well until February, 1877, when he had a fall on the ice, bruising his right side badly. Ever since then he has felt pain at the spot of injury upon taking a deep inspiration. From April last until now he has had a constant cough. His flesh failed considerably during the summer. There has been occasional sharp pain in his right side. Consequent upon some exposure his symptoms became suddenly worse. The cough grew more severe; he complained of great shortness of breath and of sharp pain in the left side. He was immediately thereupon admitted to the wards. This was early last fall. Upon close examination I found his right chest well shaped, movement free, and resonance good from top to bottom, in front and behind. There was also good respiratory murmur. Upon percussing the left chest, however, I found complete dullness both in front and behind. Both respiratory murmur and vocal fremitus were absent. The heart was so pushed from its natural position that the apex-beat was felt most distinctly at the site of the right nipple. There had evidently been a pleural effusion. The question then arose, Was it simple pleurisy, or was there some specific cause for the effusion? The patient was put to bed, and treated medicinally with digitalis, iodide of potassium, and blisters over the seat of the effusion. His

diet was nourishing and sustaining, and cod-liver oil was administered in full doses. As a result of these measures, the level of the effusion began to fall, until it had reached the line of the second interspace, and still farther until it had reached the level of the fourth rib. This decrease in the quantity of the effusion made the prognosis appear very favorable, and the case might have been regarded merely as one of simple pleurisy which tended to spontaneous recovery. But still the heart was pushed out of position. Careful percussion showed also that the resonance at the left apex was too hollow and tympanitic to be regarded as the "pseudo-tympany" so often found over healthy lung-tissue when the chest is partly filled with liquid effusion; and, moreover, no respiratory murmur could as yet be distinguished there, but in its place was heard distant amphoric resonance, with now and then a metallic, tinkling sound. When the patient was quickly moved, I could hear a sudden metallic splashing sound. The serum of the effusion was evidently being replaced by gas, making the case one of hydro-pneumothorax. The lung was unable to expand when the effusion had fallen. There had been a perforation of the pleura, and air had escaped into the pleural sac. I was very much afraid that the effused liquid might become puriform in character. The pulse was frequent; the temperature ran as high as 102° ; there was distinct hectic fever, with a marked disposition to night-sweats.

Still later, I again brought the man before the class. It was still impossible to say whether or not the effusion was purulent, since the organic disease of the lung would fully account for the hectic fever. The patient had greatly improved, and was able to walk about; but the effusion was again on the rise. The view I had expressed as to the pathology and nature of the case seemed still further confirmed. There had been at first small sub-pleural centres of catarrhal pneumonia; one of these, in softening, had caused perforation of the pleura, and allowed the escape of air and irritating pus into the pleural sac.

My treatment of the case at that time was purely expectant. I tried vigorously at first to get rid of the effusion, but when I found that the pneumothorax was increasing I ceased the use of depletives. As there was evidently some organic dis-

ease of the lungs at the root of the trouble, I tried to cure that condition first. I did not then tap the chest. Drawing off the effusion would only have created a huge pneumothorax, which in turn would have excited further inflammation, and one of the first results would have been a chest-full of pus. It is impossible to make the lung expand when compressed by a liquid effusion. I believed, too, that uniform compression was the very best preventive of the slowly progressing organic disease. I did not care to have the fluid disappear until the chest was ready to contract and the lung to expand. So I did not withdraw the effusion. I directed my attention solely to the building up of the man's system. His hygiene was carefully looked after. He had good food and plenty of it. As I believe in honest dealing with patients, telling them, as a general thing, the whole truth about their disease, I told this patient that while ausculting the back of his right chest, I heard some crackling râles directly over the spine of the right scapula, and therefore had reason to fear the existence of some spots of catarrhal phthisis in the right upper lobe.

March 15.—The patient was again brought before the class, after remaining in the wards all winter. On the last occasion that I spoke to you of this case, I stated that I had for the time determined not to perform aspiration, as I feared disease of the lung-substance. I was afraid that if I drew off the fluid it would only turn the hydrothorax into a pneumothorax. Moreover, I wished to try the effect of the constant pressure caused by the effusion upon the catarrhal disease. Lastly, the patient was doing so well as he was that I did not wish to make any change.

But later there was some slight increase in febrile action, and although the right lung was doing very well he suddenly began to expectorate purulent matter. This attack of expectoration came on at night. The two following days he expectorated as much as a half-pint in twenty-four hours. The quantity then gradually ran down to a gill a day. Where did the expectorated matter come from? From the effusion, or from softening of the lung-structure? Coincidentally with this attack the level of the effusion fell one inch. The matter must have come from the effusion, and the effusion must, therefore, have been purulent. Under these circumstances I thought it

best to make an exploratory puncture. After applying ice, the needle was introduced, and my fears proved only too true: the effusion was an empyema. I covered up the opening, and sent the man back to the ward.

April 9.—There has been no change in the phenomena. The man has been getting out of patience, and has insisted upon it that I should aspirate him and draw off all the fluid. Somewhat against my better judgment, I have yielded to his constant importunities, and have already drawn off a pint of thick pus. To-day I shall draw off another pint; and I shall continue these operations until I test fully the expansibility of the lung. If the lung does not expand, I shall have to stop. Thus far there has been no material reduction in the level of the line of dulness. The position of the heart has changed slightly: from being somewhat to the right of the sternum it has moved to a point just at the left edge of the sternum. This certainly indicates less pressure within the left chest. Such a case as the present is a very interesting one. There has been scarcely any fall in the level of dulness, therefore the lung has not expanded to any extent, and yet the heart is getting back into its natural position. How can this fact be explained? If the left lung has not been able to expand, we must at least consider that the effused liquid is not exerting so much pressure, and that the heart has come back owing to the diminution of pressure.

Another very strange fact. It has lately been asserted by Prof. Baccelli, of Turin, that the voice is much better transmitted through serum than through pus; in fact, that there is very little transmission of the voice where the effusion is purulent: yet in this case, where the presence of pus is undoubted, the vocal fremitus is transmitted quite clearly.

[These aspirations of small amounts of pus at a time were continued, but the patient gradually grew worse and worse. The hectic increased; he lost flesh and strength rapidly, and was finally entirely confined to bed. A drainage-tube was then introduced into the left chest through the point where the puncture had been made (fifth interspace, outside of the left nipple) and the effusion entirely evacuated. No expansion of the left lung took place. The amount of discharge gradually diminished,

and its character changed, until there were only about six ounces of sero-pus daily. No improvement occurred in the general symptoms. There were occasional exacerbations of catarrhal disease in the right lung, and at present—July 15, 1878—the patient is in a very low state. Despite the purulent characters of the liquid, I regret having yielded to his solicitations, as I think I have clearly shown elsewhere that in cases of pleural effusion, where pulmonary phthisis is believed to exist, operative interference is never productive of benefit.]

CYLINDRICAL EPITHELIAL CARCINOMA OF THE OMENTUM.

BY S. W. GROSS, M.D.,

Surgeon to the Jefferson Medical College Hospital.

A TAILOR, 50 years of age, was admitted into the Jefferson Medical College Hospital, November 7, 1877, on account of a tender, hard, globular, subcutaneous tumor, which was seated in the linea alba, and evidently communicated by a pedicle with the interior of the belly. The man was thin, weak, and sallow, and broken down by previous suffering.

He stated that he had been affected for six weeks with bronchitis and burning pains in the umbilical region, the latter of which, having become continuous and fixed for three days, led him to detect the circumscribed swelling on the 7th of August. In the interval he had lost flesh, strength, and appetite, and the suffering was aggravated by the ingestion of food. The bowels were inclined to be costive; there was no vomiting; and the burning pain, which, along with emaciation, and loss of appetite and strength, was the prominent symptom, lasted up to the date of operation, being quite violent at times, but particularly after eating, and frequently depriving him of sleep.

On removal, the tumor was found to lie on the aponeurosis of the external oblique muscle, and to be connected, through an opening in the linea alba, with the omentum by a rounded pedicle one-third of an inch in diameter and half an inch long. A ligature having been cast around the foot-stalk, the mushroom-like mass was cut away, and the wound dressed in the ordinary manner. After the operation the appetite improved, and the pain was greatly diminished, and

he was discharged at the expiration of a fortnight. Ascites, however, gradually made its appearance; the improvement was only temporary, and death ensued on the 14th of January, 1878. Unfortunately, a post-mortem inspection of the body was denied.

The neoplasm was one inch in diameter, moderately firm to the touch, finely nodulated, and surrounded by a delicate capsule of loose connective tissue and fat, which dipped in between the nodules. On section, the surfaces were white and alveolated, the spaces being separated by bands of fibrillar connective tissue, wide in proportion to the diameter of the alveoli, which were always minute.



225

On microscopic examination, for which and for the drawing I am greatly indebted to Dr. E. O. Shakespeare, thin stained sections presented pictures which corresponded to the descriptions and illustrations of many authors of cylindrical-celled epithelioma. "The great mass of the tissue consisted of wide bands of parallel bundles of connective tissue in a state of inflammatory irritation, and passing in every direction. In these, and parallel with their course, were the blood-vessels. In many portions of this mass were seen rather numerous roundish alveoli, the walls of many of which were lined with a single layer of well-defined columnar epithelium, consisting usually of a protoplasm slightly granular, a single, large, double-contoured nucleus, located nearer the attached than

the free extremity of the cell, and often also of a thickened line forming the free or butt end of the cell. The diameter of the latter was usually about one-fourth to one-third of its length. The walls of the alveoli were only partially covered with this single layer of epithelium, and the cells, instead of always exhibiting the characters above described, were sometimes greatly swollen, and almost entirely filled by a colloid substance. The lumen or central portion of the alveolus was either entirely empty, or filled, partially or completely, with an amorphous, transparent, colorless material, containing a few scattered minute dark granules and cellular detritus. The walls of a few of the alveoli were entirely denuded of their covering of cylindrical cells, the lumen being filled with a colloid mass, interspersed here and there with epithelium in a state of colloid metamorphosis. In addition to the round and oval-shaped alveoli, tubes, which were also lined with a single layer of columnar epithelial cells, were often seen. Many of these channels, both the alveolate and tubular, were in communication with one another."

From the stand-point of pathological histology, it is interesting, in the absence of a post-mortem examination, to determine whether the neoplasm was merely a secondary deposit in the omentum, or whether it was a primary heteroplasia of the elements constituting that organ.

In an elaborate paper, "*Ueber Carcinoma Peritonæi*,"* Dr. Theodor Petrina has collected forty cases, of which fourteen were primary and twenty-six were secondary growths of that membrane. Of the former, nine were encephaloid and five were scirrhus tumors; of the latter, fourteen were encephaloid, ten scirrhus, and two colloid formations; the primary disease having been seated in the stomach and pyloric end of the duodenum in seventeen, in the ovaries and its tubes in four, in the liver in three, and in the pancreas in two cases.

To those who believe, with Waldeyer, that carcinoma always has an epithelial origin, the above statistics are worthless; since in primary carcinoma of the peritoneum the only elements that can participate in the proliferation are the endothelial cells covering the connective tissue net-work,

the connective tissue corpuscles, and the nuclei of the vessels. Such accurate observers as Cornil and Ranvier,† however, describe primary carcinoma of the peritoneum, and state that it usually commences in the omentum as encephaloid, scirrhus, or, more frequently, as colloid; and Rindfleisch‡ holds the same views. These authorities make no allusion to primary cylindrical epithelioma; so that if it be assumed that the growth under consideration was protopathic, the presence in it of columnar epithelium can only be ascribed to a heteroplastic process. In support of such a view, many analogies might be adduced. Thus, H. v. Wyss§ has described a colloid cyst, situated between the abdominal muscles and peritoneum of an adult, which contained, in addition to the fluid contents, ciliated cylindrical epithelium; and similar appearances were met with in a large cyst on the posterior wall of the œsophagus, an inch and a half above the cardiac orifice of the stomach. Hence the cysts were heterologous as regards their origin, as they were found in situations in which there is no normal ciliated epithelium. In the same way the tumor which I have described may be regarded as a primary heterologous or heteroplastic production.

With the followers of Waldeyer, if the view be taken that the tumor originated in the omentum, we may ascribe its development to a germ from the glandular layer of the embryo, which was displaced and included in the tissue of the omentum. In this way Dr. Kolackek|| has quite recently explained the origin of a voluminous tumor of the lower jaw of a woman, aged 28 years. After removal by excision of one-half of the bone, the mass proved to be an adenoma undergoing cystic degeneration. "The structure was exquisitely acinose, the acini being lined by a layer of cylindrical cells." The occurrence of a cylinder-celled epithelioma in the omentum surely cannot be held to be more remarkable than the formation of an adenoma within the osseous tissue.

Instead of being a carcinomatous outgrowth of the omentum, the neoplasm may have been a primary cylindrical epithelioma

† *Manuel d'Histologie Pathologique*, troisième partie, p. 965.

‡ *Text-Book of Pathological Histology*, p. 273.

§ *Virchow's Archiv*, Bd. 41, p. 143.

|| *Centralblatt für Chirurgie*, No. 38, 1877, and *New York Medical Record*, March 23, 1878, p. 229.

* *Prajer Vierteljahrsschrift*, Bd. 2, p. 41, 1872.

of the transverse colon or small intestine, which, from its original seat in the mucous membrane, progressively invaded the other coats of the gut, and finally formed a polypoid nodule, which protruded through the opening in the linea alba, where it gradually increased in size. The absence of nausea and vomiting and hemorrhage, the presence of which would rather have denoted carcinoma of the stomach, and the constipation and intense suffering after the ingestion of food or during the peristaltic action of the intestines, would point to the origin of the tumor in the small intestine; although it should be stated that in the cases of carcinoma of the peritoneum, analyzed by Dr. Petrina, dyspeptic symptoms, pain, constipation, and subsequent ascites were the prominent phenomena.

Although the general history of cylindrical carcinoma of the stomach, intestines, gall-bladder, and biliary ducts is that it gives rise to secondary nodules in the liver, without involvement of its serous covering or of the peritoneum elsewhere, and although I have been unable to discover an example of secondary infection of the omentum, yet I am disposed to regard the tumor in question as a secondary formation, either by the usual way of generalization or by contact with an underlying mass, through which the endothelial cells of the omentum were converted into cylindrical epithelial elements. Whatever view may be taken of its origin, the case is none the less remarkable from a surgical standpoint, in being, so far as I can discover, the only example of removal, during life, of a cylindrical epithelioma which was developed in the cavity of the abdomen.

ENEMATA.

BY HORACE Y. EVANS, A.M., M.D.

THE literature upon the subject of enema is intimately associated with the court history of the rulers of Italy and France, and it is only through the court gossip of the years called the "golden" that we can obtain information as to the origin and progress of this mode of medication.

The introduction of the enema-apparatus forms an important epoch in the history of medicine. The credit of the invention of this useful instrument is due to one Gatenaria, an Italian. He was a professor at Pavia, where he died in 1496, after having

spent several years in improving his instrument. The mode of treating certain disorders with his apparatus was at once adopted by all the court physicians of Italy and France. Their royal patients hailed the invention as a blessed escape from the horrid compounds with which they had been accustomed to drench their stomachs, and so infatuated did they become with this novel method that Bouvard, physician to Louis XIII., administered no less than two hundred and twenty enemata to his majesty in the course of six months. In the first year of the reign of Louis XIV. its employment became so general and fashionable that it ceased to be confined to the narrow limits of medicine, and became a necessary accompaniment of the daily bath: hence the title of *lavement* given to this mode of cleansing the inner man.

It was believed that rectal ablutions cleansed and beautified the complexion; and with this object in view the ladies and courtiers were in the habit of using as many as four enemata a day.

The invention of Gatenaria was made subservient not only to pleasing the sight, but also to satisfying the delicate perceptions of the olfactory nerves. As a consequence, the injections were made fragrant with the most costly perfumes, such as rose, angelica, bergamot, and orange. So delightful were the results that Kernot exclaims, "Oh that this fashion would return!" The medical profession at first hailed the invention as one destined to be of great service, but so rapidly did it overleap its legitimate sphere and come into vulgar use that its application ceased to be fashionable with the profession, and was ultimately handed over to the barbers and nurses, where it remained until the theory of "status sthenicus" became a ruling idea in the professional mind. Not until then did the instrument find its proper place in the armamentarium of the physician. The original instrument was a straight plain barrel or cylinder, with wooden piston and cotton packing. From the time of Gatenaria's discovery to the present date, a period of four centuries, the inventive genius of men of all nations seems to have been exercised in modifying and perfecting this instrument. The name of the apparatuses now occupying dusty corners of garrets, cellars, and shop-windows is Legion.

The Italians, Spanish, French, Germans, English, and Americans have each their favorite instrument, but as a nation the French have the greatest variety and are the most addicted to its use. It is said that when the Prussians captured Strasburg, in the late Franco-Prussian War, they found such quantities of the *irrigateur* in that city that they converted them into tobacco-pipes. Correspondents frequently observed soldiers puffing smoke from anal nozzles.

The principle of the original Gatenaria syringe, with numerous modifications, continues to be employed at the present day,—the materials used in the manufacture being pewter, brass, glass, and rubber.

The syringe that has been most popular with the French and English, though less so with us, is the one which is so constructed with inlet and outlet valves and air-chamber that it produces a constant stream.

The most deservedly popular and efficient of the apparatuses thus far produced are the Matson's and the Davidson's syringes,—the former having a rigid inlet tube, and the latter a flexible one.

As the great desideratum of an enema-apparatus is simplicity of construction without impairing its efficiency, we can scarcely expect any improvement in this respect over what is known in this country as the fountain or gravity syringe. This consists of an elastic rubber tube of three-eighths of an inch calibre and varying in length from four to six feet. One end of the tube is funnel-shaped and will contain two quarts of fluid; to the other is attached the rectal nozzle. The stream produced is a continuous one, its force being dependent upon the elevation of the larger end.

The part affected by an enema is the large intestine, consisting of the cæcum, colon, and rectum. It is five feet in length, and constitutes about one-fifth of the whole intestinal canal. Its average diameter in the adult cadaver is two inches, and when it is moderately distended with fluid its capacity is from four to five quarts, any afflux of the contained fluid into the ileum being prevented by the coaptation of the margins of the ileo-cæcal valve. The amount of fluid that the large intestine in a *living* subject will contain, and the highest point in the canal to which it can be forced per anum, are questions of consid-

erable importance in the treatment of certain disorders.

The experiments of Dr. Von Trautvetter (*Deutsches Arch. für Klin. Medicin*, vol. iv. p. 476) show "that the intestines during life are capable of receiving the same amount of fluid as after death."

Professor Mosler (*Berlin Klin. Woch.*, November 10, 1874) "has with the Hegar irrigator, which corresponds with the common fountain syringe, introduced five litres of warm water into the large intestine at one time."

I have not been able to find recorded another instance in which the bowel was induced to retain so large a quantity (almost five quarts) of fluid, it being more than double that which I have succeeded in getting to remain at one time in the intestine.

Dr. Fagge (*Guy's Hospital Reports*, 1868, p. 319) reports a case of disease of the sigmoid flexure in which four pints of warm water were injected and retained.

M. Briquet (*Rev. de Thérap. Méd.-Chir.*, January 15, 1857) says, "Enemata may readily be passed as far as the cæcum."

Professor Simon of Heidelberg (*Ed. Med. Journal*, April, 1874, p. 946) has tested the matter as to whether the fluid really passed into the cæcum. In a patient having a fecal fistula quite near the ileo-cæcal junction, "a pint and a half of warm water passed so rapidly through the large intestine that in two minutes it streamed out of the fistula."

It is not necessary, however, to have a patient with a fecal fistula to demonstrate this fact: percussion over the cæcum while the fluid is being introduced gives such positive evidence of its reaching and occupying that part of the canal that it cannot be doubted.

In the hands of some, the colon tube has facilitated the introduction of fluids far up into the bowel. Thus, Dr. Bodenhamer (*Physical Exploration of the Rectum*, p. 38) says, "I have introduced my bougie and tube with perfect facility six inches into the iliac colon in numerous instances," and Von Trautenheimer (*Practitioner*, vol. ii. p. 377) found "that with a large tube fluids could be forced to the junction of the large and small intestines."

Professor H. R. Storer (*American Journal of Obstetrics*, vol. i. p. 74) reports a case of ulceration of the bowels "from which she never got ease till I applied a strong

solution of nitrate of silver through a rectal or rather colonic hollow bougie, passed through the sigmoid flexure, and until its extremity could be felt by external palpation in the right inguinal region at the seat of pain."

My own experience in regard to the introduction of the colon tube is that in one case in ten it can be passed as far as the junction of the transverse and descending colon.

The sigmoid flexure in a very large proportion of cases is almost an impassable barrier to a moderately rigid tube; and it has only been possible in my hands to overcome the tortuosities of the canal in this locality by distending the bowel to a painful degree with fluids.

By the time that these obstructions are overcome, the elevated temperature of the parts has made the tube so flexible that should it come in contact with a fold of the intestine it will coil upon itself.

That this feat of passing the colon tube the entire length of the large intestine has been performed we cannot gainsay; but our own experience convinces us that the cases in which it can be done are very exceptional ones.

The antagonism of physiological teaching to the daily experience of the profession in regard to the efficiency of nutrition per rectum appears irreconcilable. That the large intestines are voracious absorbents cannot be doubted. It is a common experience with the habitually constipated to have large injections of water retained and absorbed. I have known as much as a pint and a half of warm water to be retained by the large intestines without modifying the dry character of the stool on the following day.

Dr. Fagge (*loc. cit.*) reports an instance in which "four pints of warm water were retained and absorbed."

If the conditions necessary to a rapid absorption are a delicate mucous membrane and a copious supply of sub-mucous veins, then the rectum is not inferior to the stomach in this respect. (Anstie, *Medical Times and Gazette*, March 28, 1863.)

Savory (*Lancet*, May 9, 1863) asserts that "a substance in a state of solution fit for absorption will pass into the system more freely through the rectum than through the stomach."

The vital question in regard to nutritive enemata is, Do they ever undergo digestion

in the large intestine? Anatomically, this part of the intestinal canal is absolutely devoid of any thing that would indicate the possibility of its performing a function such as that under consideration. Neither salivary, gastric, intestinal, nor pancreatic juice, nor bile, is secreted here. Nor does it possess villi or valvulae conniventes.

"In the large intestines" (Dalton, *Physiology*, 6th edition) "the mucous membrane is smooth and slimy, free from villousities, and provided with a glandular apparatus different in structure and function from that of the small intestines."

Dr. Maxwell (*Philadelphia Medical Times*, April 11, 1874) insists that "from the ileo-cæcal valve to the anus there is not a gland or a membrane that secretes a digestive fluid."

And Briquet (*loc. cit.*) states "that the secretions of the large intestine exert no chemical influence over the substances injected, and nothing is absorbed which was not previously in a state of solution."

Furthermore, "the secretions of the rectum, unlike those of the stomach, are alkaline, and consequently many medicines, which are readily absorbed after undergoing decomposition by the gastric acids, are not adapted to affect the system when administered by the rectum. . . . Still more strikingly is this the case with food; and hence the impossibility of long sustaining life by means of nutritious enemata. In regard to the capacity of the rectum for the absorption of nutriment, there are probably cases in which this function, however limited, may be made of great service." (Stillé, *Therapeutics*, 4th edition.)

Dr. Peaslee (*New York Medical Record*, January 19, 1878) regards the value of rectal alimentation as inestimable. Yet he does not think there was any digestion whatever of the aliment so used.

Notwithstanding the absence of evidence to show the existence of a digestive function, vicarious or otherwise, in the large intestine, there can exist no doubt as to the truthfulness of the statements regarding the use of nutritive enemata in supporting life when the natural channel for the introduction of food has failed. The testimony in this respect is certainly conclusive, as a brief reference to some of the noteworthy cases recorded will exhibit.

Dr. Pierce (*American Journal of the Medical Sciences*, October, 1852, p. 571) reports a case of ulceration of the stomach which he sustained solely with nutritious enemata for *three months*.

Chambers (*Renewal of Life*, p. 426) refers to an hysterical woman who was supported by nutritious enemata for *two weeks*.

Brown Séquard (*Lancet*, January 26, 1878) reports three cases of spasmodic contraction of the œsophagus, sustained one for *five*, another for *six*, and the third for *eight days* by meat and pancreas injections.

Theodore Williams (*Lancet*, October 24, 1874, p. 158) supported a patient by nutrition per rectum for *ten days*, during which time he gained in flesh.

Dr. Kauffman (*Lancet*, December 8, 1877, p. 856) had nine patients, seven of whom were suffering from cancer of the œsophagus, one from cancer of the pylorus, and the last from chronic ulcer of the stomach. All were supported with beef and pancreas enemata. They were able to walk about, and lived for *nine* or more *months*.

Davis (*New York Medical Record*, February 27, 1878, p. 158) sustained a patient by rectal alimentation from August 26 to October 18,—*fifty-two days*.

Dr. Baldwin, of this city, mentions a case of irritable stomach supported for *two weeks* by enemata alone.

Austin Flint (*American Practitioner*, January, 1878) refers to three cases maintained by nutrition per rectum,—one of them during *three weeks*, one for *twenty-eight days*, and the remarkable one under the care of Dr. Bliss lived for *fifteen months*.

Dr. Flint proposes the following explanation of what he considers a clinically established fact, that digestion and assimilation are performed in the large intestines:

“Food introduced into the rectum excites secretion by the gastric and intestinal glands, and, in the absence of ingesta in the stomach and small intestines, the fluids secreted by these glands pass into the large intestines in a sufficient quantity to effect digestion within the latter.”

Recognizing the limited powers of the lower bowel in the performance of this function, we should select nutrients with the least possible detrita. Following this view, I have been in the habit of using strained animal broths, and in lieu of milk

I employ the whey therefrom. Two ounces of each of these with a teaspoonful of whisky every three or four hours have acted so efficiently and promptly in arresting exhaustion and in restoring vitality that I cannot but think that the rectum absorbs more rapidly than the stomach. Leube (*Practitioner*, vol. ix. p. 104), in his résumé of the effects of his “pancreatic meat emulsion,” says, “the injections always produce at least a temporary increase in the fulness of the pulse, an improvement of the general condition, and a relief to the anxiety of the patient.”

Among the numerous disorders in which rectal alimentation is demanded are those implicating the œsophagus, such as tumors, spasms or strictures, paralysis of the muscles of deglutition, gastritis, ulceration of the stomach or diseases of its cardiac or pyloric extremity, hæmatemesis, coma, delirium, strictures or other obstructions of the bowels, and the irritable stomach attending pregnancy. Advantage has been taken of the mechanical assistance afforded by the injection of fluids or air into the bowels, as in invagination, intussusception, early stage of hernia, strictures, and fecal plugging.

Dr. Brinton (*Dublin Journal of the Medical Sciences*, May, 1869, p. 426) gives a rule by which fluid enemata will enable us with more or less accuracy to decide the locality of an intestinal obstruction. If one pint of fluid only is retained, the difficulty is in the rectum. If two or three are retained, it is at or in the sigmoid flexure. A still larger quantity indicates the colon as the seat of the trouble.

In one case in which the obstruction was at the upper part of the ascending colon, nine pints of fluid were introduced.

The most favorable position of the body for the retention of large injections is upon the knees, with the head and shoulders depressed. 98° Fahrenheit is the most acceptable temperature for the fluid, which should be slowly introduced.

The efficiency and promptness with which medicines act when introduced through the rectum have been abundantly proven by reliable observers.

Savory (*Lancet*, May 9, 1863) found that the salts of morphia produced constitutional effects when administered per orem in from three to nine minutes, whilst per anum the same results were produced in from two to six minutes. So also were

strychnia and nicotine more rapid in their action when given by the bowel.

Anstie (*loc. cit.*) believes the rectum a more rapid channel than the stomach, and that it is on a par with the cellular tissue as to celerity.

He produced cinchonism in twenty minutes by an enema containing one scruple of quinia, and a colliquative diarrhoea was arrested in fifteen minutes by thus using opium.

Briquet (*loc. cit.*) states that "injections of quinia when larger than fifteen grains are not well received, and not more than one-fifth of it is absorbed," and further that "it is very difficult to produce cerebral symptoms by its introduction into the bowel."

We must remember that these latter experiments were performed as early as 1857, and it may not then have been known that for rapid and effective absorption the materials must be in thorough solution. In regard to the doses of medicines to be thus used, authorities differ so widely that it is well to recollect Professor Stille's warning, "That these discordant facts and opinions should suggest a cautious use of powerful medicines by means of enemata." (Therapeutics and Materia Medica.) Dr. R. J. Dunglison (Physician's Reference Book) gives as a safe rule, "except when using very potent medicines, three times as much per anum as per orem."

The quantity of the vehicle, in order that the enema be retained, should not for an adult exceed three or four ounces.

The great number of conditions indicating the propriety, advantage, and necessity for rectal medication makes it impossible in a paper of this character to attempt anything further than a brief reference to a few of them.

In any condition, organic or functional, calling for a derivative action from the brain, kidneys, bladder, or uterus, or in one requiring a local and general anodyne effect,—that is, in gastritis, enteritis, colitis, cystitis, uterine or intestinal colic, chordee, prostatitis, etc.,—enemata may be of great value.

In helminthiasis medicated enemata have both destroyed and removed tænia and the oxyuris vermicularis, when they occupied the large intestines. The most frequent condition, however, requiring the use of enemata, medicated or otherwise, is that of constipation.

The protestations of the profession against this mode of treating what is merely a symptom of a diseased condition have not arrested a habit which thousands have, from long experience, found to be comforting, useful, and comparatively innocent, if not curative.

GREEN STREET, PHILADELPHIA.

NOTE ON THE USE OF OLEATE OF MERCURY IN EYE-DISEASES.

BY M. LANDESBURG, M.D.

THE yellow oxide of mercury, used in oculistic practice, has these two great inconveniences: 1, it is very liable to decomposition; 2, it is very hard to triturate.

Whatever constituents may be used for the ointment, decomposition sets in sooner or later. The ointment, which, if properly attended to, is of a fine yellow color, becomes after a short time dirty-yellowish, smells rancid, and loses its healing power.

How difficult it is to triturate the yellow oxide of mercury, is proved by the fact that the correct composition of the ointment is found with only few druggists. This experience I made not only in this country but also in Germany. The yellow oxide of mercury must be rubbed with its vehicle with great care in order to impart to it the proper consistency and fineness. But few druggists seem to be aware that any inaccuracy of composition destroys the efficacy of the preparation.

Some months ago I was induced by Mr. L. Wolff, successor to G. Krause, apothecary, to try in my practice as a substitute for the yellow oxide of mercury the oleate of mercury, which, for other purposes, was first introduced into the profession by F. Marshall in 1872.

For experimental purposes he kindly submitted to me some samples, composed of the oleate of mercury and cosmoline, in the same proportions as I have been using the yellow oxide of mercury.

From an experience extending over several months, gained in a large number of conjunctival and corneal affections, which I treated according to the same indications with the new preparation as formerly with the yellow oxide of mercury, I am fully justified in saying that *the oleate of mercury has all the qualities that will render it fit to supplant entirely the former preparation in oculistic practice.*

The oleate of mercury is mixed very

easily with cosmoline, undergoes no decomposition or rancidity, and remains for any length of time without the slightest alteration. It may be prepared in its proper form by any skilful pharmacist. The ointment presents a yellowish, diaphanous substance of slightly firm consistency. Brought between the eyelids it readily melts, and can be rubbed in so completely that not the smallest particle remains. Its capability of assimilation and absorption is very great. The reaction of the eye upon the application is but inconsiderable, less than upon the use of the yellow oxide ointment.

The only precaution to be observed by the pharmacist in preparing the oleate is to see that the oleic acid be pure and that it be recently prepared with fresh oil of sweet almonds.

1605 ARCH STREET, PHILADELPHIA.

NOTES OF HOSPITAL PRACTICE.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINIC OF PROF. T. GAILLARD THOMAS, FOR DISEASES OF WOMEN.

Reported by P. BRYNBERG PORTER, M.D.

(Continued from page 469.)

DOUBLE ANTEFLEXION—PROLAPSED OVARY.

THE next patient is Annie H., a native of England, and 24 years of age. She has been married seven years, and has had one child, but no miscarriages. The child was born six years ago, or one year after her marriage. How long have you been sick? "Four years." Did you get perfectly well after the birth of your child? "Yes." Have you never felt quite well during the last four years? "Not for more than two or three weeks at a time." From what do you principally suffer? "Headache and backache." When do you have these? "I have the backache every morning after I get up, and the headache at different times." You do not feel the pain in the back later in the day? "No." Do you suffer much at your monthly periods? "I used to suffer a good deal, but do not have so much pain now. Still, I always have a spell of biliousness and vomiting before my sickness comes on." Can you stand and walk well? "I am excessively weak, and the least exertion

fatigues me." Do you feel much exhausted after your monthly sickness is over? "Yes." Is there anything else that you complain of? "Sometimes I have a bad pain in my hip and groin." Then you have been a great invalid? "Yes, I have had to doctor all the time." What troubles you the most of all your symptoms? "The headache and backache."

This patient presents symptoms enough to show a good deal of disorder about the pelvic organs, and so, as I read the diagnosis which I hurriedly made in my private room before the lecture, I feel that I have not got at the whole truth in this case. On introducing my finger into the vagina, I found the cervix uteri bent forward very decidedly and the body bent on the cervix. In other words, it was a case of double or cervico-corporeal anteflexion. This was all that I made out at the time; but it does not seem to account satisfactorily for all the symptoms. When you get into practice you will meet with some patients upon whose statements you will instinctively place great reliance, and some others to whose assertions you will pay no attention whatever; and I think both of the women who have been before you to-day can be placed in the former category. Mrs. H. has given us a very straightforward account of herself, and so I feel that this biliousness, as she calls it, before her menstrual periods (vomiting preceded by some headache) is a matter of a good deal of importance, and not fully explained by the flexion which I have found to exist. It is true that there are menstrual headaches, and I know at least a dozen ladies who are subject to them; but in this case I strongly suspect some ovarian complication which I did not discover in the examination which I made in the case.

The flexion would sufficiently account for the dysmenorrhœa which lasted for several years and has now passed off, and for the sterility which has existed for the last five years. Suppose, on making a further examination, I am still unable to detect anything abnormal about the ovaries: we shall then have to suppose the other symptoms due simply to general nervous derangement, and hope for their relief, to some extent at least, by the straightening of the uterus. How is this to be done? I should begin at once with the uterine repositor, and, after using it for about half

a minute and straightening the canal to but a very limited extent the first time, allow the organ to fall back into its present position. In two or three days the manœuvre should be repeated, and then again and again, until the organ had become accustomed to such treatment, when an antever-sion pessary should be introduced. Even while the patient is wearing the pessary the uterus should be stretched out from time to time by means of the sound or repositoir. After a while the uterine nerves, which have long been in a disordered state on account of the malposition of the organ, would become restored to their natural condition by means of the equalization of the uterine circulation, and the whole system would no doubt become greatly improved. [The following week Dr. Thomas concluded the case as follows:] Since the patient was before you, gentlemen, she has at my request been examined more thoroughly by my clinical assistant, Dr. Ward, and he reports that on resorting to conjoined manipulation one of the ovaries was found to have fallen down beside the uterus, and that when pressure was made upon it between the fingers of the two hands it caused her such acute pain that she almost jumped off the table in consequence of it. This, then, makes the case complete to my mind, and perfectly clears up all that was obscure about it. This pain of which she complains ought not really to be called dysmenorrhœa, because it anticipates the flow by several days. There is such a thing as painful menstruation, and, again, such a thing as painful ovulation. All the symptoms of which the patient complains are thus explained. It is a case of no special interest; but I have thought it worth while to bring it to your notice again to-day for the purpose of impressing upon you the very great importance of finding out in such cases whether the ovaries are in a normal condition or not. When it has been ascertained that chronic ovaritis is present, you have gained two very useful points.

The first is that you know that you can probably afford your patient a certain amount of relief by the appropriate treatment for this affection. The second is that you will be kept from promising too much in the way of treatment.

The replacement of a flexed uterus is not ordinarily a difficult matter (though it happens to be in this particular instance), and

when this has been accomplished you can usually look for the cessation of the dysmenorrhœa on account of the straightening of the uterine canal. But here, in addition to the pain produced by the mechanical obstruction caused by the flexion, we have what is known as ovarian dysmenorrhœa (though, as we have seen, the pain precedes the flow), and that is altogether a different matter, which requires special treatment, as has been indicated, and from which it could scarcely be hoped to obtain complete relief.

PRURITUS VULVÆ.

The next case, gentlemen, is one of that kind which the more you try to study up in the books the more perplexed you will probably become in regard to. The patient, Mrs. Elizabeth M., is 50 years of age, and a native of Ireland. She has been married twenty-six years, and has had seven children and one miscarriage. She tells us that she has passed the menopause, but that it did not occur until a year ago, when she was forty-nine years old. She has been complaining of the trouble for which she comes to consult us for at least twenty-five years, so that we are at all events justified in calling it a chronic case. There is but one symptom in the case (though it is a sufficiently terrible one), and that is, a constant and excessive itching about the genitals. In other words, we have here one of those banes of a physician's existence, *pruritus vulvæ*.

That this is no trifling matter you may very readily understand when you reflect that this woman has been thus suffering for a quarter of a century, and yet has been living in a city like New York, where there are so many facilities for obtaining relief from almost every kind of ailment. Nevertheless, judging from the condition of the vulva, I should say that the affection was quite as bad to-day as it has ever been, though the patient tells me that it has at times been even a little more aggravated. She says that she had always hoped that when the change of life came she would obtain some relief from her misery; yet in this she was entirely disappointed. Unless you have investigated the subject particularly, you can form no conception of the torments which women afflicted in this way suffer. This patient informs me that she frequently lies awake for many hours at night in consequence of the terrible itch-

ing, and that it is wholly impossible for her to keep from scratching the vulva, which, of course, only increases the irritation of the parts.

Let me now give you the result of the vaginal examination. The first thing that struck me was the exquisite sensitiveness of the labia majoræ, and on separating these with my fingers I discovered quite a free leucorrhœal discharge escaping from the vagina, though the patient had not mentioned this at all in describing her case. I found that the whole uterus had undergone the physiological atrophy resulting from the menopause, with the exception of the cervix, while this was uncommonly large, so that the entire first phalanx of my fore-finger passed into its canal. All the vagina, vulva, anus, and buttocks are intensely red, and almost eczematous in appearance. In all such cases as this you must remember that, whatever may be the pathological condition present, what the patient wants, and as speedily as possible, is to get relief from her suffering. It is also well to remember that in almost every case of pruritus vulvæ which you meet with you will have to look for a different cause, for their name is legion. Some little time since, a patient came into my hands whom I found almost wild from loss of sleep and from the use of opium in consequence of pruritus. She had only become an opium-eater during the three weeks previous, but her sufferings were so intense that she had at last been driven to this pernicious habit. On making a careful examination of the genitals and the pelvic organs I was not able to discover any condition about them which seemed at all likely to give rise to the trouble: so I tested the urine for sugar, and, finding it present in large quantities, the matter was at once settled.

It is now a well-recognized fact that diabetes mellitus is not an uncommon cause of pruritus; and therefore, whenever you have a case of the affection, and are unable to find any other satisfactory cause for it, you should never fail to examine the urine. For some reason this saccharine urine is apt to have a peculiarly irritating effect upon the vulvar mucous membrane. In certain cases of pruritus the bi-borate of soda and the bichloride of mercury have been found useful as local applications; but the only way to treat pruritus successfully is to do away with the

cause, whatever it may be; and you can never cure diabetes by applying borax or corrosive sublimate to the vulva.

In some cases a patient who has suffered, it may be, for years, can be cured at once. If, on a careful scrutiny of the mons veneris and other parts with the eye, or a magnifying-glass to assist it, you discover the little *acarus*, you have only to make a few applications of sulphur ointment, when the patient will be entirely cured. Even when this parasite is present, it is often extremely difficult to find it, on account of the irritation of the skin produced by scratching; but if you can find a little red line or track, leading to a slightly elevated point, you may be pretty sure what it is that is doing the mischief.

I do not propose, however, on the present occasion to go into all the causes of pruritus, as I think a clinical lecture is hardly the place for such an enumeration. All I wish to do now is to impress upon you the very great importance of getting at the real cause, whatever that may be, in every individual case. Still, I may perhaps add one or two more to those which I have already mentioned. True eczema is among the causes. In the present case the skin about the genitals presents very much the appearance of eczema, as has been stated; but this is only the result of the pruritus. In others, the latter depends on eczema for its origin, and in such cases you should not treat the pruritus, but the eczema. The treatment would then probably consist of arsenic, a change of diet and hygienic surroundings, and attention to the condition of the skin. But how, it may be asked, are we to decide whether the eczema is the cause or only a result of the pruritus? If it is true eczema, you will almost invariably find evidences of it in other parts of the body, as, for instance, behind the ears, or upon the hands. The same is true of some other skin-diseases.

By far the most frequent of all the causes of pruritus I have found in my experience to be vaginal leucorrhœa. Does any one inquire, what special kind of vaginal leucorrhœa? I really do not know, except that it is that kind of acrid discharge which will cause a burning sensation in the fingers for fifteen or twenty minutes after one has made a vaginal examination in a case where it is present, notwithstanding the fact that they have been thoroughly washed with soap and

water. It is this kind of leucorrhœa which will set up a urethritis in the male (after connection), which can only be distinguished from that of a specific character by its short duration and easy curability. If in any given case you desire to test whether vaginal leucorrhœa is the cause of the pruritus, thoroughly tampon the vagina with cotton, which should properly be saturated with glycerole of tannin. If it is really the cause, this mere damming up of the discharge will make the matter clear; for in twelve hours the patient will experience the greatest relief from her suffering.

This, I cannot but believe, is the pathology in the present case. The eczema is undoubtedly due only to the scraping of the skin by the nails, and it is really a wonder that there is not more irritation here than there is. There is no eczema in any other part of the body, and the leucorrhœa noted offers a sufficiently satisfactory explanation of the condition. Such being the case, it cannot be cured by tamponing, or by the local application of such remedies as I have mentioned. If there was one of them which would stop the supply of the leucorrhœa, it might answer, but, unfortunately, none of them can do this. It is, indeed, a very difficult matter to accomplish, and it is altogether possible that we may not be able really to cure this patient, though I hope we shall, at all events, be able to give her a considerable amount of relief.

In the first place, this cervix is so suspiciously open (now that the menopause has been over for a year) that I am inclined to suspect that there is a polypoid growth in its canal so high up that I am unable to reach it with my finger. If there is any such growth present, of course it should be removed; but if there is not, the patient should use frequent injections of bi-borate of soda in solution, and once or twice a week the cervix should be thoroughly cleansed of mucus, and nitrate of silver applied. Occasionally, also, chemically pure nitric acid should be used, with the hope of altering the secretion. Copious injections of water should be used continually, and, in addition to the other treatment suggested, the patient should once or twice a day press up against the cervix a suppository of butter of cacao containing five grains of tannic or gallic acid, which will have the effect of preventing a free flow of mucus.

TRANSLATIONS.

ENDOSCOPIC APPEARANCES IN THE VARIOUS FORMS OF GONORRHOEA.—J. Grünfeld (*Cbl. f. Chir.*, 1878, No. 21; from *Wiener Med. Jahrb.*), as a result of his experience with the endoscope, comes to conclusions somewhat different from those of Désormeaux. He distinguishes the following forms of urethritis:

1. *Urethritis blennorrhœica*, the acute blennorrhœa of the urethra without complication. The field of vision of the endoscope is filled with greenish pus, the mucous membrane underneath markedly reddened, greatly puffed out, and showing erosions here and there. The so-called lacunæ of the mucous canal are wanting, or their depth is reduced to a minimum.

2. *Urethritis membranacea*, characterized by striated layers of grayish-white membrane, the removal of which gives rise to slight bleeding. This form of disease is ordinarily complicated by inflammation of the dorsal lymphatics of the penis.

3. *Urethritis simplex*, a less marked variety of *U. blennorrhœica*, the mucous membrane being somewhat red and swollen, with injected blood-vessels; the lacunæ decidedly evident.

4. *Urethritis granulosa*. The mucous membrane is evenly colored; no isolated blood-vessels can be seen; wrinkles are for the most part wanting, but numerous punctiform elevations can be perceived which are distinguished by reflecting light from their surface.

5. *Urethritis with the formation of abscesses*, which occasionally originate in herpes blebs, occasionally are chancrous sores, and sometimes proceed from badly-treated strictures. x.

A CASE OF HEMORRHAGIC COXITIS CURED BY PUNCTURE.—C. Langenbuch, in the *Deutsche Zeitschr. f. pract. Med.* (*Cbl. f. Med.*, 1878, p. 285), gives the case of a 17-year-old otherwise healthy girl, who, after an attack of polyarthritis, suffered great pain and swelling in the left hip-joint. A puncture undertaken with antiseptic precautions gave exit to some one hundred centimetres (three ounces) of a bloody fluid. The whole limb was put up in a plaster-of-Paris bandage, pain ceased at once, and a cure was effected within a few weeks. x.

ORTHOPÆDIC TREATMENT IN PARALYSIS OF OCULAR MUSCLES.—J. Michel (*Cbl. f.*

Med., 1878, p. 286; from *Klin. Monatsbl. f. Augenheilk.*) recommends in these cases a local treatment based upon the principle of passive movement. After fixation of the bulbus in the neighborhood of the corneal border, beside the insertion of the paralyzed muscle, the former is to be moved backward and forward through the longest arc possible. This passive motion is to be kept up for the space of about two minutes, and should be practised once a day. The advantages of the treatment are, elimination of the action of the antagonistic muscles, and shorter duration of the treatment. x.

PERSISTENT HICCUGH TREATED SUCCESSFULLY BY PILOCARPINE.—Dr. Ortille, of Lille, writes to the *Bull. Gén. de Thérap.*, 1878, p. 412) giving an account of a case of obstinate hiccough in which, after trying all the usual remedies, he had recourse to electricity, which was found so successful by Dr. Dumontpallier. For a few hours the electrical applications appeared to prove successful; but the hiccough returned. Dr. O. was about to apply electro-puncture, with a view of tetanizing the diaphragm, when, recollecting what he had read of the action of pilocarpine upon the phrenic nerves and of the vomiting which so often follows its use, he injected two and one-half centigrammes (two-fifths of a grain) of pilocarpine under the skin. The effect was surprising and almost instantaneous. A quarter of an hour after the injection the patient was covered with sweat, salivation was established, and the hiccough had ceased, not again to recur. x.

IODIDE OF POTASSIUM IN ASTHMA.—In our issue for May 25, 1878, will be found a brief account of Sée's method of treating asthma. Winternitz (*Wien. Med. Presse*, 1878, No. 19) has employed this treatment in one case with success. The patient, a man of 50, had suffered twenty years from asthma, always annoying, and aggravated so greatly by catching cold that he had to spend his winters in the South. He was strumous, having enlarged glands about the neck. Following a cold contracted during March last, he had decided fever, his lips became cyanotic, pulse 90, and he showed all the symptoms of embarrassed respiration and circulation. Under these circumstances, W., having failed to relieve his patient by other remedies, ordered him iodide of potassium, at

first in the dose of eight grains bis die, then after a few days increasing this to twelve, then to sixteen grains, and finally at the end of ten days to twenty-two grains morning and evening. From this time the dose was gradually diminished. The effect upon the asthmatic symptoms was very marked, the patient soon began to get better, and at the end of two weeks was entirely relieved, and in some respects fully better than he had been for many years. There was no catarrhal trouble from the iodide, and only slight eruption, but the stomach was somewhat disordered. x.

BORAX AND BORACIC ACID AS ANTISEPTICS.—Polli, of Milan (*Jour. des Sci. Méd.*, 1878, p. 265), calls attention to a recently published pamphlet to the virtues of borate of sodium in preventing fermentation, particularly comparing these with the sulphites and hyposulphites. He concludes: 1. That boracic acid and borate of sodium do not alter when exposed to the air, like the aqueous solutions of the sulphites. 2. That boracic acid and the alkaline borates do not absorb oxygen and become deoxidizers, like the sulphites and hyposulphites. 3. That the alkaline borates are not decomposed by weak acids, while the mixture of these with the sulphites and hyposulphites is impracticable. 4. Borate of sodium and boracic acid are not purgative, but rather diuretic, in their action: they may therefore, unlike the sulphites and hyposulphites, be administered in considerable doses without fear of exciting intestinal disturbance. 5. Borate of sodium can be given in solution in water, while boracic acid, being nearly insoluble, may be administered in tablets or in suspension in syrup. 6. The price of boracic acid and the borates being much lower than that of the sulphites and hyposulphites suggests the employment of the former in hospital practice when antiseptic effect is desired. x.

PHLEGMASIA ALBA DOLENS OF THE UPPER EXTREMITY.—A woman of 26, and in poor health, anæmic and puffy in the face, became pregnant. Her health during pregnancy was better than formerly. She had a good delivery, but the infant died of convulsions at the end of six days. The mammary secretion was suppressed without difficulty, but three weeks later tumefaction of the right arm, with pain and tenderness, occurred. The skin was white and tense, and did not pit upon pressure. Blue

striæ and indurated ridges were observed, particularly at the bend of the elbow. The swelling had begun at the hand and had extended rapidly up to the shoulder. Compression was made by means of a bandage, and this œdema disappeared within twenty-four hours. At the end of six days, however, it had again recurred, and this time extended beyond the arm, involving the upper part of the chest, neck, and face, particularly upon the right side. The voice became altered, the respiration thick and guttural, no pulmonary complications. Under the use of liniments these symptoms disappeared, afterwards showing themselves on the left side, but finally disappearing entirely.—*La France Méd.*, 1878, p. 91; from *Lo Sperimen-tale*.

x.

FALSIFICATION OF LYCOPodium.—M. Stanislas Martin, the well-known pharmacist of Paris, gives a short note on the admixture of dextrine with the lycopodium of commerce, of which the following is the substance. Viewed with the naked eye, adulterated lycopodium cannot be distinguished from the pure article. Under the microscope, however, the powdered lycopodium is seen to consist of isolated granules spherical in shape and fissured in three planes. Dextrine, on the other hand, appears in the form of flat shining lamellæ. Shaken up with water, the dextrine dissolves out of the mixture, while the lycopodium remains insoluble. This solution of dextrine can be evaporated over a water-bath and dried. It is then in the form of a yellow powder like pulverized corn starch. A solution in water defects polarized light.

Lycopodium powder, which when pure is an admirable application in those chafes so common in fat children, becomes a very disagreeable sticky mass when mixed with dextrine and applied to a moist surface. It is therefore desirable that it should be pure.—*Bull. Gén. de Thérap.*, 1878, p. 410.

x.

PURE UREA IN THE BLOOD DOES NOT CAUSE CONVULSIONS.—MM. Feltz and Ritter (*Bull. Gén. de Thérap.*, 1878, p. 416) have presented before the Académie de Sciences a note relative to certain experiments which they have made upon urea as the alleged cause of uræmic convulsions. Their conclusions are as follows: 1. Pure urea, artificial or natural, injected into the venous system in very large amounts never

causes convulsive symptoms: it is rapidly eliminated by the secretions. 2. There are no ferments in normal blood which might convert urea into ammoniacal salts; rapidity of elimination cannot be held responsible for this non-conversion, for by suppression of the renal secretion elimination of urea may be retarded without hastening the supervention of eclampsia. 3. Ureas which in large doses give rise to convulsions are always impure, containing ammoniacal salts whose presence may easily be demonstrated by Nessler's reagent.

x.

EXTRAORDINARY SEXUAL PRECOCITY.—M. Lefebvre (*Jour. des Sci. Méd.*, No. 5, 1878; from *Bull. de l'Acad. Roy. de Méd.*) gives a note on Molitor's case of a girl eight years of age who became pregnant and aborted at four weeks. The case is pretty fully described, and appears to be authentic.

x.

CASE OF CANCER OF THE UTERUS WITH COINCIDENT INDURATION OF THE LEFT MAMMARY GLAND.—J. Rogowicz (*Cbl. f. Chirurgie*, 1878, No. 18; from *Medycyna*) had a patient 46 years old, very anæmic, and suffering from a carcinomatous tumor, the size of a walnut, in the vaginal portion of the uterus, ulcerated and bleeding. In addition, there was a hard, knotty, citron-sized tumor in the left breast, together with walnut-sized indurated axillary glands. Application of a hot iron to the uterine growth was followed by peritonitis. This was treated by calomel, and salivation ensued. The patient recovered, and when seen, six months later, showed no sign of a tumor in the left mammary region, but a similar one in the right. Rogowicz attributes the disappearance of the mammary tumor to salivation.

x.

TUBERCULOSIS OF THE MUSCLES.—Marchand (*Cbl. f. Chirurgie*, 1878, No. 18; from *Virchow's Archiv*, Bd. lxxii. p. 142) observed the following appearances in the post-mortem examination of a 24-year-old prisoner who had suffered from coxitis. The muscles in the neighborhood of the diseased bone were filled with numerous roundish bodies, which were for the most part yellow and caseous. Most of these miliary tubercles had developed in the immediate neighborhood of the smaller arteries. In addition, miliary tuberculosis of the lungs, spleen, kidneys, and particularly of the lymphatic glands near the hip, was observed.

x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JULY 20, 1878.

EDITORIAL.

SEPARATE CONFINEMENT.

THIRTY-SIX years ago, after a visit to this city, Charles Dickens wrote of the system of separate confinement practised in the Eastern State Penitentiary that although in intention it was "kind, humane, and meant for reformation," yet in its effect it was "cruel and wrong," and added, "There is surely more than sufficient reason for abandoning a mode of punishment attended by so little hope or promise and fraught beyond dispute with such a host of evils." In these opinions, even at that time, he was not by any means alone; and since then the same forcible statements have been repeatedly reiterated and the beneficial results of the system have been as frequently denied. During this time, however, the system has been in operation in our midst, attracting but little attention from the intelligent few, misunderstood and misrepresented by the ignorant many, bitterly opposed by the advocates of other methods of punishment, and yet, under the intelligent and persevering administration of a few public-spirited gentlemen, slowly but surely demonstrating its excellence and the wisdom of its original projectors. The principal and distinctive characteristic—the *separate* confinement of convicts, as opposed to their congregation in large masses—is still adhered to as closely as the occasional overcrowding of the prison will permit, and with results which, so far as we know, are unsurpassed, if not unequalled, by those of any similar institution in this country or elsewhere. The evils which it has been asserted are necessarily attached

to this plan are the production of insanity, the occurrence of pulmonary disease, the prevalence of the habit of masturbation, and the non-productiveness of convict labor. To all these assertions the annual reports of the prison have given frequent and conclusive contradiction; and that for 1877, which we have just received, forms no exception to this rule. We have space to allude only to a few of the facts bearing directly upon these points, which, however, from their relation to the general etiology of mental and physical disease, ought to be of sufficient interest to medical men to entitle them to careful consideration.

In a population of over fifteen hundred, only two men developed insanity, and one of these was a man imprisoned for incestuous fornication attended with the most aggravated and disgusting circumstances,—that is, a man of whom, according to the now unquestioned laws of correlation between crime and insanity, mental aberration might have been, and indeed was, long ago predicted. Only nine deaths occurred from phthisis during the year; and in all of these there was either actual pulmonary disease or marked hereditary tendency towards such disease at the time of admission. In regard to the prevalence of masturbation, it is shown beyond a doubt that it does not exist in the prison to any greater degree than among the general community. The entire mortality for the year was only 1.03 per cent.,—less than that among the inhabitants of a section of the avenue upon which the prison is situated, and directly fronting it.

No case of typhoid fever occurred during the year,—a convincing evidence of the perfect drainage and ventilation of the cells and the general cleanliness of the prison.

Upon the question of the greater pecuniary profit to be derived from the congregate system of imprisonment it is not necessary to enter. As long as it is recognized that there are other requisites in the treatment of criminals than those of

labor and incarceration,—as long as it is shown, as it clearly is here in the admirable report of the president of the board of inspectors, that the age and circumstances of many of the prisoners indicate that they do not belong to the crime-class, and that in many instances their criminal tendencies are in the first stage of development and are probably curable,—just so long will the amount of profit to be derived from their labor remain a secondary question. That of primary importance to society and to the convict himself is how to prevent the association of such persons with hardened and confirmed criminals, and at the same time to subject them to such reformatory forces as are best adapted to their particular needs. Congregate prisons certainly do not afford these advantages, and are here well defined as “manufactories where incarceration is the punishment and labor the penalty, and where moral instruction and school-keeping are recreations granted to the convicts to occupy an hour or two in which work cannot be profitably carried on.”

As a field of psychological study for the alienist or medical jurist, probably no other institution in the country offers equal advantages. The tables with which its reports are filled, showing the relation of crime to disease, the influence of hereditary tendencies in the production of criminals, the closely interwoven relations between physical and mental trouble and again between these and moral aberration, form one of the most valuable collections of statistics that could be put in the hands of any physician who has to deal with these problems. They are certainly too little known and appreciated by the profession, and we take this means of calling attention to them because honest and persevering labor such as has been manifested for many years in the management of this prison, under adverse circumstances and in the face of bitter opposition, is at least worthy of the recognition and criticism of

intelligent men, if not also of their support and encouragement.

BUFFALO LITHIA SPRINGS.

THE value of alkalies in disease has long been known, and the wide reputation of the springs of Vichy bears testimony to the superiority of the natural waters over the simple alkalies. Of late years lithia has been asserted to have especial value in chronic gout over and above that of other alkalies. Some considerable experience has indicated that this assertion is well founded; and several years since we looked for a native lithia water which should be cheap and efficient. The product of the Buffalo springs of Mecklenburg County, Va., was finally brought to our notice by a Baltimore physician, who had been relieved by its use of some very troublesome and alarming symptoms believed to be due to an inherited gouty diathesis. Trial in one or two cases of inveterate chronic gout has afforded much satisfaction to us, free diuresis being provoked and followed by relief of symptoms. It is too early to decide whether the water will assume the position of an achieved, substantial reputation; but certainly we are acquainted with no little-known spring that seems to come with so much of promise, and we trust that some of our readers will give a speedy and impartial trial and report the results in our columns.

CORRESPONDENCE.

CHLORAL IN DYSENTERY.

MILLVILLE, N.J., June 25, 1878.

PROF. H. C. WOOD:

MY DEAR DOCTOR,—An invasion of dysentery in our midst reminds me of a conversation with you some time since, wherein I promised to write you the details of my manner of treating that disease with hydrated chloral injections.

A weak solution of that valuable medicine on chronic ulcers manifested such favorable results in my hands that I conceived the idea

of using it locally on the inflamed and congested bowel in dysentery. The first case had been under the usual treatment for three days without relief. The child, aged 11, was tormented with thirst, pain, and tenesmus, with twenty-five or thirty dejections in twenty-four hours. In connection with other treatment I ordered five grains of chlor. hyd. dissolved in 3ij starch gruel thrown up the bowel with considerable force from a hard rubber syringe. It remained three hours, during which the child slept. Many of the other symptoms were modified, and the injection was repeated, which remained seven hours, when it came away with some fecal matter, but without tenesmus.

The child asked for food, which was given in form of mutton tea thickened with boiled wheat flour. All treatment ceased in forty-eight hours from first enema, four being given in all.

The case seemed so satisfactory that I mentioned it to my confrère Dr. J. S. Whitaker, who has pursued the same treatment with the most happy results in every case, aborting the disease within a few hours.

I may mention that he used ten grains instead of five with a lady aged 25, who had twenty or thirty calls in twenty-four hours, with complete repose for eight consecutive hours, with permanent abatement of all other symptoms, without other treatment. The number of aggravated cases of dysentery we have treated with the chloral hyd. warrants us in the assertion that if early and properly used it is *almost* a specific.

Very truly and courteously yours,
WILLIAM L. NEWELL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MARCH 28, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Tumor over the superior maxilla. Presented by Dr. HARRISON ALLEN.

MISS A., aged 24, noticed, in September, 1877, a pimple over the superior canine tooth. Soon afterwards she noticed swelling of the face of the same side. When first seen, through Dr. Sinkler, the swelling was rounded, sessile, one-quarter of an inch long, situated at the junction of the lip and gum, on the right side of the frænum, and extending thence across the frænum. A small fistule was seen on a teat-like eminence, which, however, did not receive anything larger than an Anel's probe. The parts were freely excised, hoping to come upon the sac of an alveolar abscess. No such structure became apparent, the parts cutting like cartilage. Inasmuch as

the parts continued to increase in size, the growth was removed under ether, February 17, 1878, Drs. Sinkler, Keen, and Cryer assisting. The swelling in part had returned by March 16, the patient complaining of a pain as though the parts were occasionally stung by a bee.

Report of the Committee on Morbid Growths.—"A microscopical examination of the specimen presented by Dr. Allen shows it to consist of a dense fibrillar connective tissue, infiltrated with numerous small round lymphoid cells. Most probably the growth is the result of an inflammatory process.

"April 11, 1878."

Fibroid polypus of the uterus. Presented by Dr. FREDERICK P. HENRY.

Mrs. K., æt. 48, first came under my observation at the Episcopal Hospital in January, 1877. Her only complaint was of pain in the back. She was questioned regarding uterine symptoms, but her answers were such as to lead to the opinion that the uterus and its appendages were in a normal condition: at any rate, she was not subjected to a uterine examination. The woman's appearance indicated an excellent state of health. Very shortly after her admission she was attacked with rheumatoid arthritis of the finger-joints, which confirmed the opinion that the pain in the back was of a rheumatic nature. The rheumatoid arthritis ran a rather acute course for that disease, and at its termination she was discharged at her own request, the pain in the back being somewhat relieved.

I did not see the woman again until September last. She did not come to me then for treatment, but mentioned incidentally that her backache continued and was rather worse; she was at that time under the treatment of another physician. I did not see her again until March 13, when she came and told me she had decided to place herself under my care. I advised a uterine examination, as on questioning her closely I found that there had been almost constant bloody discharges from the uterus for nearly two years. She preferred first trying medical treatment. In about ten days, the medicine proving of no avail, she agreed to the examination. I discovered a tumor presenting in the cervix, and advised its immediate removal. This was on Friday, March 22. On the following Monday, with the assistance of Dr. Nancrede, I removed the growth with the wire écraseur. There was some slight hemorrhage, which was controlled by the application of Monsel's solution. The operation was performed without an anæsthetic. The woman's condition is now wonderfully improved. All uterine discharge has ceased. The pain in the back has gone, and food, formerly loathed, is now taken with a vigorous appetite.

The removal of these growths is not solely indicated by the symptoms, which are not

always so distressing as in the present case, but also by the possibility of a malignant sarcomatous degeneration occurring in them. In this degeneration the pedicle is often the last portion attacked, so that removal of sarcomatous polypi is frequently followed by a radical cure.

Scirrhus cancer of the pylorus. Presented by Dr. WILLIAM H. WARDER.

Miss Amelia P., aged 35 years, was always remarkably healthy until March, 1877, when she began to suffer from attacks of indigestion. These attacks, which were supposed to be the result of some error in diet, grew worse and more frequent, until there was a constant uncomfortable feeling in the stomach. Domestic, homœopathic, and patent medicines were tried without benefit until July, when she consulted Dr. Conner, who has kindly given me her symptoms at that time and during his attendance. There was languor and debility, sleepiness, uneasiness in the epigastric region, especially after eating; vomiting also occurred occasionally a few hours after meals, of undigested or partly digested food and mucus. The patient was somewhat anæmic. Bowels constipated; tongue moist, but slightly coated in the centre. From this time until December there was no marked change. She was alternately better and worse. Now she began to complain of sour stomach, acid and watery eructations, and heart-burn. Anæmia and debility becoming more decidedly marked; countenance cachectic; bowels constipated. The distress in the stomach was of a gnawing character, and described as a "misery." She never admitted having pain of a sharp lancing character. At this time there was some tenderness in the lower part of the right epigastrium, which was entirely relieved by a blister. Strict attention had been paid to the diet. Oleaginous substances, pure cream, cod-liver oil, essence of beef, were acceptable to the stomach, and produced only a minimum of gastric uneasiness. Saccharine or starchy food always produced a great deal of distress. Cod-liver oil taken in September improved her condition, and she gained about three pounds in flesh. December 13, passed a restless night, and early on the morning of the 14th vomited about one quart of a dark fluid having a sooty or coffee-grounds appearance; also a small quantity in the afternoon. This was the only time this kind of vomiting occurred during her illness. The stools the day following were much darker than usual, and the breath for eight or ten days subsequently was fetid.

Immediately preceding this black vomiting the patient complained of intense burning in the stomach, remarking that it felt like a coal of fire. This pain disappeared after the vomiting, and did not return. Dr. Conner pronounced the case cancer of the pylorus.

I saw the patient on February 13. She was

very much emaciated and suffering from great debility; countenance cachectic. Did not complain of any pain in the stomach. No nausea or vomiting. No pain upon pressure over any part of the abdominal walls. She was able to take one and a half to two pints of milk per day, and the essence of a pound of beef, without inconvenience. Did not complain of any pain after eating. She complained only of weakness.

There was no tumor of any kind in the epigastric region. Upon a very careful examination, I found a very small, hard nodule, about the size of a walnut, on a line with the umbilicus, and about one inch and a half from it. This could be handled without giving the patient pain, but did not seem to be very movable. It appeared to be in the region of the head of the pancreas. The bowels were loose and inclined to diarrhœa. The urine was normal in quantity and quality. The temperature 99° to 99½° in the axilla.

Dr. William Pepper saw the case with me on the 7th of March, and after a careful examination was disposed to think the disease cancer of the head of the pancreas. The character of the symptoms negated the idea of any considerable degree of pyloric obstruction, though from the occasional attacks of marked gastric disturbance which had occurred at an earlier period of the case, it seemed not improbable that the diseased mass was attached to or partly involved the walls of the stomach. There were no especial symptoms of any kind after this. She simply complained of weakness, and died on the 16th of March. *Post-mortem.*—Stomach very much distended, with about one quart of dark, sooty fluid in it. The pyloric portion was on a line with the umbilicus, and about one and a half inches to its right. The fundus or larger tuberosity was resting on the upper portion of the left iliac region. It was healthy, except at the pyloric orifice, where there was a hard nodular mass. Upon opening the stomach there was found an ulcerating surface corresponding to the hard indurated mass. No glandular involvement; liver normal; also pancreas and spleen.

Dr. PEPPER said he had seen the case once in consultation with Dr. Warder, and it seemed to him to present much interest, both clinical and pathological. It was a good illustration of the difficulty that often attends the diagnosis of diseases of those organs whose functions are not well known or are with difficulty investigated during life. In the present case the progress of the symptoms made it clear that malignant disease existed, and careful examination revealed the presence of a small ovoid tumor in the position described by Dr. Warder, a little to the right of the median line and about one inch above the line of the umbilicus. The diagnosis chiefly rested between pyloric or pancreatic scirrhus. It must be remembered that at no time had there been

symptoms of pyloric obstruction. Vomiting had occurred several times in the course of a few months, and some kinds of food caused distress; but as a rule the patient was able to take and digest a fair amount of nutritious food. In some cases of pyloric cancer symptoms of obstruction, distention of stomach, vomiting, constipation, disappear late in the course of the disease, owing to the occurrence of ulceration; but here no such symptoms occurred at any time. It is true that at the post-mortem the stomach was found markedly enlarged; but this could not be detected when I saw the patient. The belly was retracted, and there was dulness on percussion everywhere, save just below the ribs. This was due to the fact that the intestines contained little gas, while the stomach contained scarcely any, the only contents being a considerable quantity of grumous fluid which gravitated to the greater curvature. The tumor was unusually low down for pyloric scirrhus; and it also seemed less movable and more closely attached to the vertebral column than is usual with such growths. The above points seemed certainly in favor of the seat of disease being the head of the pancreas. Considering the quantity of food taken and retained, and the absence of fever or severe pain or any wasting discharge, the emaciation was rather remarkable. It could not be said that there was any unusual proportion of fat in the stools; and the patient was too ill to justify the administration of oil with the view of ascertaining the power of digesting fat. On the other hand, various symptoms met with in a large proportion of cases of pancreatic cancer were absent. Among these may be mentioned pain in the back, and jaundice. Upon the whole, however, it seemed most probable that the scirrhus nodule was seated in the head of the pancreas, and that the pyloric end of the stomach was closely adherent or even involved. It has been seen, however, that this view was not confirmed by the post-mortem examination; although even now it seems difficult to see how a different opinion could have been formed. It is finally interesting to note that, although symptoms of pyloric obstruction were absent, there is a certain degree of contraction of that orifice. Thus, the little finger can be passed through it only a little beyond the first joint.

GLEANINGS FROM EXCHANGES.

THE RATIONAL TREATMENT OF STRICTURE OF THE URETHRA (*The Medical Record*, June 15, 1878).—In a paper on this subject read before the New York Medical Journal Association, Dr. S. W. Gross comes to the following conclusions:

1. The rational treatment of stricture of the urethra consists in restoring the natural

expansibility or calibre of the affected portion of the canal.

2. Before any operation having this end in view is practised, the sensibility of the urethra should be obtunded, lest it resent the violence to which it is about to be subjected.

3. After the spasm and hyperæsthesia have been relieved, the calibre of that portion of the urethra in which the stricture is located should be estimated by the urethrometer, with the view of bringing the affected portion up to that standard.

4. Internal urethrotomy from behind forward is the most effectual mode of accomplishing that object.

5. The meatus should not be interfered with provided its circumference is eight millimetres less than that of the spongy urethra.

THE EXCRETORY PROCESS (*The Clinic*, June 15, 1878).—Of the collective material present in the digestive apparatus of animals, only a portion is altered chemically and by fermentation so that it is entirely or in part assimilated. The remaining portions are not changed in the organism, but leave in their original forms after they have produced certain effects in the body. The organs through which they leave the body depend on the diffusibility of the materials. Materials but little diffusible pass through the intestinal canal only; those readily diffusible pass through the intestinal walls into the fluids of the body, and into the blood; thence they are excreted by the glands. The more diffusible the material, the greater the number of glands which take part in the excretion. In order to discover all the organs which excrete such substances, Dr. Albert Adamkiewicz examined the ways of secretion of one of the most diffusible salts, *i.e.*, the iodide of potash. He found it in the urine, saliva, tears, milk of nursing women, sweat, secretions of the nose, and in a case of well-developed iodine acne in the contents of the pustules. In the latter the presence of the iodine was shown with some difficulty; in the other secretions with ease. The proof of the presence of the iodine in the pus of inflamed sebaceous glands was obtained after considerably diluting the nitric acid used for the iodine reaction. From the presence of the iodide of potassium in the contents of the acne pustule, he concludes that the sebaceous glands also secrete iodine, and that the salt excreted by these glands inflamed them and thus caused the acne.

URETHROTOMY FOR IMPACTED CALCULUS (*The Indian Medical Gazette*, May 1, 1878).—Surgeon R. D. Murray reports the case of a man, æt. 40, who when he came under notice was suffering from great difficulty in micturition, severe pain along the entire urinary tract, and much constitutional prostration. The urine was passed in drops, and the bladder was distended and the seat of intense pain. His conjunctivæ were jaundiced and blood-shot. On examination a calculus was

found impacted in the penis just where it emerges from the scrotum, large in size and almost completely obstructing the passage of urine. Efforts were made to dislodge it, but it could not be moved. An incision three-quarters of an inch in length was then made, and the stone extracted. The edges of the cut were carefully brought together with catgut sutures, and a catheter was left in the bladder for forty-eight hours. In about nineteen days the patient was discharged, with the wound entirely healed. As it is usually taught that these operations are commonly followed by urethral fistulæ, and that therefore the calculus should be, if possible, extracted through the perineum, the case seems worthy of record.

VASELINE AS A BASE FOR EYE-SALVES (*The Clinic*, June 15, 1878).—Dr. Galezowski speaks of the great advance in the treatment of scrofulous affections of the eye, chiefly keratitis and conjunctivitis, by the use of the yellow oxide of mercury. The preparation is almost a specific in phlyctenular keratitis and phlyctenular kerato-conjunctivitis.

In order that the salve shall be the most efficacious, it must be as little irritating as possible. Vaseline he regards as the most suitable preparation as a vehicle. It is free from acids, and is unalterable,—properties not possessed by any of the fats. He says his trials with the vaseline have far surpassed his expectations, and ends with giving two formulæ that he uses, the one of the yellow oxide of mercury and vaseline for scrofulous phlyctenular keratitis, the other of nitrate of silver and vaseline for granular conjunctivitis.

MISCELLANY.

THE CÆSAREAN SECTION IN A THEOLOGICAL ASPECT.—A medico-theological question has been lately agitated in the French journals in reference to children extracted by the Cæsarean operation. The performance of the rite of baptism has been hitherto restricted to those children that have presented any signs of life after removal from the body of the woman. This is also the rule in England. In France the operation appears to have been recently performed as much for the purpose of procuring a subject for baptism as for the saving of the life of the child. Judging by a case which is recorded to have occurred at Champoly, the life of the woman is of secondary importance under these circumstances. A woman named Dumas is said to have died from the Cæsarean operation, performed on her by a pork-butcher, under the direction of a priest. There was an inquiry, but it came to nothing. The reclamations of the press and the remonstrances of the profession have had no effect. The sole object of the priest was to have the child removed by extraction, in order that the

rite of baptism might be performed on it; and he doubtless selected a non-professional operator from the difficulty of finding a member of the medical profession to assist him in his views. Dr. Depaul, an eminent obstetric surgeon, in commenting upon the facts of the case, truly states that the conduct of both persons was illegal. In dealing with the theological question, Dr. Depaul makes a few observations which may be of use to medical practitioners on these occasions. A medical man must not surrender his judgment for the performance of this operation to the dictation of a priest or any other person. If he perform the Cæsarean section, he must perform it on his own responsibility and on reasonable grounds, such as would be sanctioned by professional practice. It is a delicate question whether it should in any case be performed on a living woman, as it might accelerate her death. If performed in advanced pregnancy, within a quarter of an hour after death, the child may be equally removed living. The safety of the woman should in these cases predominate over all other considerations. The operation may cause the immediate death of a woman, and this act of vivisection would not be justifiable merely for the sake of baptizing a child which might die immediately after its extraction from the uterus. In France it is much more common to operate on a living woman than in England; but the English law, which allows a husband to inherit the property of his wife, renders it a necessary condition that the child must be born or extracted while the woman is living. Hence it is to the interest of the English husband to have the child extracted from the wife before her death. Medical men have nothing to do with the theological questions connected with this subject. They are of greater importance in Roman Catholic than in Protestant countries. The text of the law in France is that a child can only be baptized after its birth, and the moment of its birth is indicated by its appearance in the light of day, whether this appearance be the result of natural or violent causes,—*i.e.*, by delivery or the Cæsarean extraction. Theologians do not admit that baptism can be performed on the child in utero through the abdomen of the mother; and it is a moot point whether, in partial delivery, it can be performed unless the head of the child is presenting. The Academy of Medicine have had this subject under discussion, but they have come to no formal resolution. They discourage the performance of the operation on living women; and even in reference to the dead they advise that it should not be performed unless the child is viable, or unless it has reached such a stage of gestation as to enable it to live after its extraction.—*British Medical Journal*.

HYDROPHOBIA AND SEXUAL EXCITEMENT.—As to the experimental production of rabies, —its generation *de novo*,—experimental vet-

erinary science, and the pathological observations of competent veterinarians in Europe, furnish some facts worth recording. Fleming reports the case of a cross-bred spaniel, five and a half months old, which had never left its mother, never went out, and was naturally very quiet. When the mother became in rut, the young dog, excited by the odor, became extremely agitated, and at last refused food. Three days later, being asleep, it awakened suddenly, and flew savagely at an attendant. When taken to the infirmary of an eminent veterinary surgeon in Paris, rabies was diagnosed. The animal refused all food for the next three days; on the fourth, rabietic paralysis supervened; on the fifth, it died. Another case of what Fleming styles spontaneous rabies, occurring under similar conditions, is noted in a late number of the *Veterinary Journal*, London. In a box adjoining the kennel of a male was placed a female in rut, the effluvia from which caused the most ardent veneric excitation. For fifteen days—placed in such tantalizing proximity—the unfortunate animal manifested the most extreme agitation, and finally went furiously mad. Similar results have been produced experimentally by confining males near a female in rut, particularly by M. Toppolin, who describes them as so constant and decisive as to leave no room for doubt as to the agency of intense sexual or other excitation in producing rabietic madness. It is not an unfamiliar fact that rabies has been experimentally produced in the inferior animals by inoculating them with man's saliva, as well as with the saliva of dogs not rabid. A guinea-pig thus inoculated became subject to violent convulsions, which could be excited at pleasure by dashing a little water at him. A rabietic pig, which lay torpid under the severest beating, could be excited to convulsions at pleasure by flirting a piece of white paper in its face.—*New York Medical Record*.

HORSE-SHOES.—The *London Lancet* avers that from a physiological point of view nothing can be more indefensible than the use of horse-shoes. The mode of attaching them by nails it believes to be injurious to the hoof, and the probable cause of many affections of the foot and leg which impair the usefulness and must affect the comfort of the animal. It thinks that it would be found that the natural structure would adapt itself to any ordinary requirement. There is, however, a wide difference of opinion upon this point among authorities on horse management, and the problem is not likely to be finally solved until the experiment has been tried. There can be no doubt as to the additional power of *grasping* road-surfaces which would be secured, to the advantage of the rider or driver and the relief of the horse, if shoes were not used. The experiment, to be at all a fair one, must be tried with colts that have never been shod.

MILK.—To convert, so to speak, cow's milk into human milk, allow one-third of a pint of new milk to stand for about twelve hours; remove the cream and add it to two-thirds of a pint of new milk, as fresh from the cow as possible. Into the one-third of a pint of blue milk left after abstraction of the cream, put a piece of rennet one inch square. Let the vessel stand in warm water till the milk is fully curdled, which requires from five to fifteen minutes, the rennet being removed as soon as the milk curdles, and put into an egg-cup for future use, as it can be employed daily for a month or two. Break up the curd thoroughly, and separate the whole of the whey, which should be rapidly heated to boiling, when a little more casein separates and may be removed by straining. One hundred and ten grains of powdered sugar of milk are to be dissolved in this hot whey, and the sweetened fluid added to two-thirds of a pint of new milk.—*Canadian Journal of Medical Science*.

It is stated that Prof. Virchow has determined to withdraw from politics.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 30 TO JULY 13, 1878.

- SMITH, A. K., MAJOR AND SURGEON.—To report to Superintendent-General Recruiting Service for duty at the General Recruiting Depot, David's Island, N. Y. H. S. O. 143, A. G. O., July 3, 1878.
- MIDDLETON, P., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Porter, N. Y. S. O. 120, Department of the East, July 13, 1878.
- TAYLOR, M. K., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended four months. S. O. 142, A. G. O., July 2, 1878.
- POPE, B. F., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Schuyler, N. Y. H. S. O. 116, Department of the East, July 8, 1878.
- KIMBALL, J. P., CAPTAIN AND ASSISTANT-SURGEON.—To report to Comd'g General Dept. of the East for duty as Attending Surgeon at Governor's Island, N. Y. H. S. O. 143, c. s., A. G. O.
- CAMPBELL, A. B., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for two months. S. O. 139, A. G. O., June 28, 1878.
- PATZKI, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Ontario, N. Y. S. O. 120, c. s., Department of the East.
- AINSWORTH, F. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of Arizona, and assigned to duty in Department of California. S. O. 142, c. s., A. G. O.
- SKINNER, J. O., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Camp Bowie, A. T. S. O. 66, Department of Arizona, June 19, 1878.
- TAYLOR, M. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Bliss, Tex. S. O. 53, District of New Mexico, June 21, 1878.
- ROSSON, R. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Yuma, Col. S. O. 66, c. s., Department of Arizona.
- LA GARDE, L. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Hamilton, N. Y. H. S. O. 116, c. s., Department of the East.
- REYNOLDS, F., CAPTAIN AND ASSISTANT-SURGEON.—Retired from active service in conformity with Sec. 1251, Revised Statutes. S. O. 139, c. s., A. G. O.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 3, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE.

A RARE CASE OF ACUTE PHLEGMONOUS GASTRITIS IN CONNECTION WITH CHRONIC BRIGHT'S DISEASE—RESULTS OF PLEURISY—CATARRHAL JAUNDICE.

Delivered at Bellevue Hospital, N.Y.,

BY PROF. AUSTIN FLINT, SR.

(Reported for the *Philadelphia Medical Times*.)

GENTLEMEN: I should have liked to present to you the patient whose case I shall now relate to you; but I am prevented by the best of reasons. He was suffering from phlegmonous inflammation of the stomach,—an affection so rare that a gentleman who has looked up the literature of the subject informs me that this is only the thirty-second case on record. He was admitted to the hospital two days ago, and died last evening. When I first saw him, the day before yesterday, his most prominent trouble was suppression of urine.

He was a man in middle life, who had had syphilis, and who was probably a hard drinker. He stated that he had been in good health up to three days before his admission, when he was taken with violent vomiting, and from that time suffered from severe and constant pain in the back and head. His urine also became scanty, and the last that he had passed (and then but a small quantity) was twenty-six hours before coming into the hospital. He was found to be weak and anæmic, with a pulse of 120, and his abdomen was swollen and tense, but not very tender on palpation.

A catheter was passed, but no urine came away. Wet cups were applied over the kidneys, and jaborandi and croton oil, followed by digitalis, were given internally; these measures, of course, being resorted to with a view of producing a vicarious elimination of urea from the system. In addition, he was given whisky and aromatic spirits of ammonia. He perspired freely, and in about an hour passed a large quantity of urine. Later the cupping was repeated, with the effect of entirely relieving the pain in the back,

and the other measures were also repeated from time to time. There were coma and some œdema of the lungs preceding death.

At the autopsy it was found that there was well-marked hypertrophy of the left ventricle of the heart, which was otherwise normal. The kidneys showed the characteristics of chronic parenchymatous nephritis, and, indeed, we had a right to infer the presence of Bright's disease from the fact that there was cardiac hypertrophy without valvular lesions. When this state of affairs is found to exist, there is always strong ground of presumption that there is kidney trouble. As an instance of this I may mention that this morning I saw a patient who complained of rather indefinite symptoms, but whose heart I found considerably enlarged, the apex-beat being in the sixth intercostal space; and I have little doubt that the examination of the urine will show that Bright's disease is present.

The stomach was the seat of very extensive phlegmonous inflammation, and there were accumulations of pus at various points under its peritoneal coat. In addition, there was some general peritonitis, as well as perihepatitis and perisplenitis. Both spleen and liver were enlarged, and the latter weighed one hundred ounces. As there were suppression of urine, uræmia, peritonitis, and phlegmonous gastritis, it is certainly no great wonder that the patient did not survive.

Now, gentlemen, I want you to study with me this next case, which I now see for the first time; for it is one which, so far as I can judge of it, you are all liable to meet with at any time.

The patient's name is Louis Leroy. He is a native of France, 40 years of age, and a painter by occupation; and he has been in the hospital about ten days. His family history is good, and he says that he has never had any serious illness, but that three years ago he met with an accident by which three of his ribs were broken. Three months ago he caught cold, and he then began to cough and to have a pain in the side. He also suffered from dyspnoea and general weakness.

At the present time the urine shows a healthy state of the kidneys, and no abnormal increase of temperature is shown by the thermometer. His face and gen-

eral appearance, as you observe, do not give evidence of any very serious disease; but we will not dwell upon any preliminary characteristics of the case, but go directly to the examination of the chest.

On inspection we find that there is no difference in the intercostal spaces on the two sides of the chest; but in forced respiration it is observed that he uses the right side considerably more than the left. There is greater resonance on percussion at the left than at the right summit of the chest in front. There is, as you are aware, some difference normally between the two; but here it is much more marked. Now, the question arises, Is this due to dullness at the right apex, or to exaggerated resonance at the left? Attention to the pitch and quality of the sounds will determine this, and we thus find that the resonance is more tympanitic and higher in pitch on the left than on the right side. Without being purely tympanitic, it is of the character known as vesiculo-tympanitic. Such being the character of the apex-resonance, it must be due either to pulmonary emphysema or inflammatory trouble about the lower part of the lung. On the right side there is normal resonance all over the surface of the chest; but upon the left side there is the most marked dullness, amounting to flatness, throughout the lower two-thirds of the lung, both before and behind. We can, therefore, exclude emphysema entirely.

But have we a pleuritic effusion, or a solidification of the lung, to deal with? It is evidently not an acute lobar pneumonia, as we can determine both by the history and the absence of febrile symptoms; and the chances are that there is effusion. If this is the case, we should naturally expect to find a horizontal line with resonance above and flatness below it upon the anterior, the posterior, and the lateral surface of the chest. To my surprise, however, I find that we do not get this horizontal line, the upper boundary of the dullness appearing to be very irregular in outline, especially in front and at the side. Still this does not by any means exclude effusion: it simply shows that one of the ordinary evidences of it is lacking.

Now let us try another test. If there is fluid in the pleura, the dullness on percussion which we find in the upper portion of the chest (though, as we have seen, not as high

up as the apex) ought to disappear when the patient leans over or assumes the recumbent posture. But this test also fails, for the dullness still remains the same in whatever position the man places himself, the upper border of its area not changing in the least.

There is, however, still another means of exploration to be resorted to, and that is the stethoscope. If there is effusion here, vocal resonance ought to be greatly diminished, or altogether lost; while if there were solidification of the lung it would be abnormally increased, and we should have bronchophony. Now, what are the actual results obtained from auscultation in regard to this point? Over the greater part of the lung I find that vocal resonance is undiminished; but when I get quite low down posteriorly it becomes lost. Yet at this point, also, it is heard when the patient leans well forward.

The examination shows, therefore, that there is at present but a very small amount of effusion in the pleura. It is certainly not nearly sufficient in quantity to account for the very marked and extensive dullness which is found over almost the entire left side of the chest; and I think that we must look for an explanation of this in the fact that there has been a very large amount of inflammatory lymph thrown out in this case, for the absorption of which there has not as yet sufficient time elapsed. In a certain proportion of the cases of pleurisy this pathological effect is observed, and the lymph is almost always absorbed very slowly. Here the patient has undoubtedly had a larger amount of fluid effused into the pleura; but it has now almost entirely disappeared, and the case seems to be progressing favorably. When the needle of the hypodermic syringe is inserted even at a low point in the chest-walls, it is found impossible to draw off any fluid, and this is, no doubt, because what little there is left is so thick and mixed with lymph that it will not flow through such a small tube.

There is one point in regard to cases such as this about which I would put you on your guard, and which can only be positively determined by a very careful physical exploration and a thorough consideration of the history and symptoms of the case. That is, whether there is a likelihood of phthisis following upon the pleuritic attack; and, as you can readily see,

it is a matter of the greatest importance to the patient, and one which may very materially modify the prognosis in any given case.

It is well ascertained that pleurisy is not infrequently the first point in the development of phthisis, and so it is well for us always to bear this fact in mind. If there is much cough and expectoration, and if there is loss of flesh, and especially hæmoptysis, we should at least suspect the presence of the disease. In all cases of pleurisy, therefore, we should give the most careful consideration to the family history, the physical signs, and the symptoms of the case. In the present instance a thorough and satisfactory exploration of the chest is not possible just now, on account of the presence of such a large quantity of lymph about the pleura.

Here is another case, gentlemen, which I propose to study with you. From the very marked yellow discoloration of the skin, no one, whether of the medical profession or not, would have any difficulty in pronouncing the patient to be the subject of jaundice; but at the present day that would hardly be regarded as a very satisfactory diagnosis. Jaundice is always a symptom (depending on a number of different conditions); but for the sake of convenience we sometimes call it a disease. The ordinary manifestations of jaundice are very well shown in this case. In the first place, the skin of the entire body is markedly icterosed, and the conjunctiva, as is always the case, is of a still deeper tint of yellow. Here is a specimen of urine passed by the patient, and you observe that it is considerably darker in color than normal urine; though, doubtless, it is not nearly as deeply stained with bile as it was a short time ago. When it is treated with nitric acid you observe the beautiful play of colors which is characteristic of bile on the application of this test. The urine is a much better guide than the skin by which to determine in any particular case whether jaundice still persists or has disappeared; for the reason that the skin remains discolored for a considerable time after the bile ceases to be absorbed by the blood. This is because the bile-pigment in the skin is extra-vascular and is deposited in the skin itself; so that a considerable time is necessary for its removal. From the urine, on the other

hand, the bile disappears as soon as it is no longer absorbed by the blood. What, then, does jaundice mean? Can we connect it with any disease, or shall we regard it as the disease itself?

This patient, Patrick G., is a native of Ireland, 43 years of age, and a carriage-maker by trade. He was admitted to the hospital three days ago. His family history is good, and he says he has usually enjoyed good health. He has had two attacks of gout, but has never had rheumatism, and, strange to say (if his word is to be relied on), has never had either gonorrhœa or syphilis. He has always worked hard, and since early manhood has been a pretty hard drinker. He has been in the habit of taking whisky undiluted, and frequently before breakfast. One day, nearly three months ago, while at his work, he noticed a very uncomfortable itching of the skin. This pruritus appears in a certain proportion of cases of jaundice, but is by no means constant in the affection. Later he also noticed blotches upon the skin, which seem to have been of the character of urticaria. This is also sometimes met with as a precursor or accompaniment of jaundice. At the same time he began to feel very weak, and to suffer from loss of sleep and appetite, and at length had to give up work. As time went on, he suffered also from pain in the head and back, and from constipation; and he now noticed that his stools were clay-colored, while his urine, which he passed more frequently than usual, became very dark. Three weeks ago the discoloration of the skin and conjunctiva commenced, and in about a week reached its maximum intensity, which has since continued up to the present time. Anorexia now became complete, and he vomited more or less every day, the matters thus voided being frequently green in color. At the time of his admission a physical exploration showed that his heart, lungs, and liver were normal, but that the spleen was somewhat enlarged. At present his fæces are still clay-colored, but not completely so.

Cases are not infrequently met with in practice in which physicians cannot at once decide definitely as to the origin of the jaundice; and only to-day I saw in consultation a patient in regard to whose case there was considerable doubt. There we found that the liver was enlarged, and I am of the opinion that it is probably

fatty. In the case now before us, however, there is no enlargement whatever of the liver; and in this connection the question very naturally arises, Do jaundiced skin and conjunctiva denote disease of the liver? Such is no doubt the prevalent opinion among the public in general; but, in reality, in the vast majority of cases of jaundice there is no disease whatever of the liver. Thus, it is the rare exception for cirrhosis, carcinoma, or either fatty or waxy degeneration of the liver to be accompanied by jaundice.

There is one point which I desire to examine particularly in this case, and that is, to find out whether there is any physical evidence of an over-accumulation of bile in the gall-bladder. When this is the case, we can ordinarily make out with great distinctness the circumscribed tumor to which the distended gall-bladder gives rise; but in the present instance I find that there is no such tumor discoverable. Twice it has occurred to me that, while making an examination of this kind, the pressure which I have employed in palpating the distended gall-bladder has caused its complete evacuation, and consequently the collapse of the little tumor which before could be easily distinguished. Here there is no evidence at all of any disease of the liver being present.

What else, then, is liable to give rise to jaundice? Something that no doubt suggests itself to many of you is an abdominal tumor of some kind causing pressure upon the ductus communis choledochus; such as an enlarged pancreas, or an accumulation of hardened feces in the colon. Even if such a tumor existed, it might not be appreciable by any physical exploration of the abdomen; but it is altogether probable that its presence would be indicated, or at least rendered probable, by certain symptoms which could not otherwise be explained. In the present instance I think any such explanation of the jaundice can fairly be excluded: so that you see how very much we have eliminated in arriving at a conclusion,—viz., all diseases of the liver, and all kinds of tumor.

In fact, we have almost narrowed the matter down to a single supposition; but, before I mention that, I wish to say a word in regard to the pathology. It has been a strongly contested question whether we may not have the formation of bile in the blood itself. Without attempting to de-

cide this point definitely, I may at least say that certainly in the vast majority of instances where bile is present in the blood it has been originally secreted in the liver, and has only gotten into the circulation by re-absorption. This, as it seems to me, is a strong proof of the correctness of the teachings of physiology in regard to the formation of bile: if it were not so, we should always have jaundice as an accompaniment of disease of the liver.

It is true that the jaundice here is due to obstruction; but this obstruction undoubtedly results from an inflammatory condition of the duct itself. Clinical experience teaches us that in connection with this we always have a duodenitis, as well as a gastritis, or, as it is usually denominated, gastro-duodenitis. That this is undoubtedly the condition here, we have arrived at by a process of exclusion; but the diagnosis is also corroborated by the history of the case. The patient, you will remember, for some time had loss of appetite, and vomiting, preceded by itching and an eruption of the skin, all of which are indicative of gastritis, and the pathology of the present case is undoubtedly that of the great majority of those of jaundice which we meet with in practice.

Since this is the case, therefore, we should make an error if we were to treat such cases by means of active cathartics and emetics, with a view to getting rid of the bile, as was formerly too frequently done. Such measures, as you may imagine, only increase the inflammation already present. As a rule, we do well, I think, to apply a blister over the region of the stomach, and then, in addition to such counter-irritation, we may treat whatever symptoms seem to call for interference. If there is constipation, for instance, mild laxatives may be given. In the way of remedies directed towards the inflammatory condition existing, we may select those which have a beneficial effect upon inflamed mucous membranes in other positions, and even opiates, notwithstanding the fact that opium is said to diminish the secretion of bile. In some instances, certainly, nothing seems to quiet the irritation of the stomach like it.

The prognosis is, of course, highly favorable. In this case the jaundice proper is shown to be almost over by the fact that the urine contains so little bile. But the

skin is still very deeply discolored, and I should judge that it will take about two weeks more for the absorption of the bile-pigment deposited in it, provided that there is no further obstruction of the ducts by which the bile would again be thrown into the circulation.

ORIGINAL COMMUNICATIONS.

ON THE TREATMENT OF ECZEMA RUBRUM BY MEANS OF GLYCEROLE OF THE SUBACETATE OF LEAD.

BY LOUIS A. DUHRING, M.D., AND ARTHUR VAN HARLINGEN, M.D.

THE use of glycerole of the subacetate of lead as an application in chronic eczema rubrum was first brought prominently to the notice of the profession by Mr. Balmanno Squire, of London.* But up to the present time this plan of treatment has not attracted as much attention, in this country at least, as it deserves. It is the object of the present communication to set forth the results obtained from the use of the glycerole in dispensary practice during the last six months, and these, it is believed, are of so favorable a character as to suggest a further and more extensive use of this remedy in the class of diseases to which it is applicable.

For an account of the theory of action of the glycerole, reference may be made to Mr. Squire's papers. The formula which he suggests is as follows:

Acetate of lead, 5 parts;

Litharge, $3\frac{1}{2}$ parts;

Glycerine, 20 parts, by weight.

Mix, and expose for some time to a temperature of 350° F. Filter through a hot-water funnel. The clear viscid fluid resultant contains 120 grains of the subacetate of lead to the ounce. It is used as a stock from which the preparations employed are made by dilution with simple glycerine. In the cases below noted, the strength of the glycerole in any given instance is designated by the number of grains of subacetate of lead which it contains.

Although, as the title of this paper indicates, the majority of the cases of which

notes are here given belong to the category of eczema rubrum, yet some instances are included of other forms of eczema. These are introduced with a view to show the effect of the glycerole in these cases, and for purposes of comparison.

Case I.—Myra W., æt. 55. Applied for treatment January 18. *E. rubrum, leg.* Disease covers the limb from ankle half-way to knee. There is œdema, infiltration, a red, weeping surface, varicose veins, intense itching and burning. The patient a large, stout woman; the affection of some months' duration. Glycerole gr. xv ad ζ i. Bits of rag saturated with lotion to be laid freshly on affected parts night and morning, and then bandage to be applied. Limb not to be washed excepting when crusts accumulate, then with hot water and brown soap. Jan. 23.—Improvement. Less œdema, little weeping, no itching or burning. The leg had only been washed once, on account of the pain this procedure caused. There was a thin white deposit over the surface. Jan. 30.—The œdema and infiltration have become so rapidly reduced that the skin is wrinkled. Pigmentation beginning. Color of surface dusky red, inclining to brown. Patient delighted with success of treatment. June 20.—No medicine for a month or more. Completely cured, excepting that a small patch of infiltrated skin remains on instep.

This was in every way a typical case of eczema rubrum, and exemplifies very well that form of disease in which the glycerole appears to act to the best advantage. The rapid diminution in the œdema and swelling was striking, and the relief given to the patient was remarkable. The case shows that where œdema is present this is reduced by the glycerole. When, however, infiltration of the upper layers of the skin is most marked (as in Case XIII.) the glycerole will often be found to exercise but little influence.

Case II.—Mary Ann S., æt. 47. Applied for treatment May 7. *E. rubrum, leg.* Palm-sized patch over front of leg, including a shallow ulcer the size of a quarter-dollar. The diseased skin red, infiltrated, and slightly moist. Sensations both of itching and burning. The limb swollen and œdematous, and showing varicose veins. Some months' duration. Glycerole gr. xx ad ζ i. Not to be washed. Elastic stocking. May 16.—Great relief. May 24.—Patch of eczema one-half original size. Ulcer entirely healed. June 6.—Nearly well.

The rapidity of cure in this case was somewhat unusual for a patient obliged to pursue her ordinary avocations without cessation. It may be attributed in part to

* Medical Times and Gazette, 1876, vol. i., March 18 and 25, and Essays on the Treatment of Skin Disease, No. 2 (second edition), London, J. & A. Churchill, 1878.

the aid given by the elastic stocking, but we are quite sure that this alone would not have cured a patch of chronic eczema with ulceration unless the glycerole had also been carefully and thoroughly applied.

Case III.—Christina D., æt. 68. Applied March 19. *E. erythematousum et fissum, palms and soles.* Aggravated case. Palms show a not unusual degree of the disease. Soles very severely affected, covered with tough, greenish-brown, heaped-up masses of horny epidermis, and deeply fissured, looking like rhinoceros-hide. Least movement causes skin to crack, and gives intense pain. March 26.—Glycerole gr. xv ad ʒi. April 2.—Improvement. Skin less red; fissures closed; much less scabiness. Soak the feet every evening in hot water, and wash them with brown soap before applying the glycerole. May 8.—Palms nearly well; only a few small scaly patches remain. Backs of hands itch. Wash with tar soap. Soles much improved, though still scaly.

Though not belonging to the class of *E. rubrum*, this case is noteworthy as showing the good effect of the glycerole in a peculiarly intractable form of eczema, where, it should be said, other forms of internal and external treatment had failed.

Case IV.—Jane McC., æt. 42. Applied February 5. *E. squamosum et rubrum, leg.* Hand-sized patch over front of left ankle and instep; similar but smaller patch on right sole. A number of varicose veins about ankle. Glycerole gr. xx ad ʒi. Leg not to be washed, but to be bandaged with great care. Feb. 7.—Improvement. Tendency to the formation of pustules here and there, both over seat of disease and in neighborhood. Feb. 12.—Nearly well. Thick deposits over skin. Wash off. She came two or three times more, always improving, and was discharged, finally, quite well, April 4.

A very satisfactory result. The affection was practically cured in a week, though it took some time longer to remove all traces of its existence. The formation of pustules in this case did not interfere with the cure. Usually the appearance of these lesions signifies that the glycerole does not agree.

Case V.—Joseph O'H., æt. 62. Applied May 21. *E. rubrum, leg, with ulcer.* Disease affects whole surface of both legs, from ankle to knee, and is accompanied by ulcer of right leg. Large irregular patches of inflamed and weeping integument. The interspaces red, but not moist. Legs much swollen and infiltrated. Burns, and especially itches intensely. Disease four years' duration. Has been under treatment at a large hospital the winter

through, but without relief. Glycerole gr. xx ad ʒi. Wash with brown soap, and bandage carefully. June 28.—Has improved steadily under treatment. Now redness gone everywhere, except above ulcer. No itching or burning. Very grateful. July 5.—One leg quite well, the other nearly so.

The result in this case was exceptionally good, because it was obtained while the patient was living in great privation and could not follow the directions with regard to bandaging, etc., as closely as was desirable.

Case VI.—William H., æt. 32. Applied June 5. *E. rubrum, leg, with ulcers.* Patch of disease covering half the leg from ankle to calf. Half a dozen split-pea to coin-sized ulcers scattered over it. Limb much swollen and painful. Some weeks' duration. Glycerole gr. xl ad ʒi. Apply on rags. Wash leg now and then. Bandage carefully. June 30.—Within two weeks all the ulcers but one have healed; that is now just closing. Infiltration and swelling markedly decreased. Skin brown. No burning or itching. Is about to go to work.

The glycerole here used was stronger than in any of the previous cases. No difference, however, could be observed in its effect. The healing effect upon the ulcers was decidedly more favorable than we are accustomed to obtain from the ointments ordinarily employed.

Case VII.—Thomas H., æt. 50. Applied March 18. *E. rubrum, leg.* Palm-sized patch on inside of calf, and two coin-sized patches on ankle; about the latter are marked varicose veins. Glycerole gr. xv ad ʒi. Don't wash. March 22.—Decided improvement, but severe itching. Wash once with soft soap, then continue without washing again. Later the glycerole was used gr. xxv ad ʒi, and washing with tar soap was practised. June 19.—Most of the patches have become pigmented. Patient recovering.

Case VIII.—Margaret McA., æt. 48. Applied October 10, 1877. *E. rubrum, arms, neck, and face,*—chiefly forearms. Two weeks' duration. Glycerole gr. xx ad ʒi. Oct. 13.—Better. Oct. 17.—Marked improvement.

In this, which was a comparatively acute case as to its duration, though of the chronic type, the glycerole seemed to act as well as in the eczemas of the leg. Unfortunately, as in so many cases in dispensary practice, the patient disappeared before the cure was entirely accomplished, so that the final result cannot be given.

Case IX.—Robert Y., æt. 54. June 18. *E. rubrum, leg.* Has had the affection on and

off during the last ten years. Present attack is, however, of only a few weeks' duration. Disease confined to outside of left leg, extending from ankle nearly to knee. Skin for the most part red, infiltrated, covered with thick, adherent, scaly, and crustaceous lamellæ. Scattered here and there are several red, moist, oozing or weeping patches the size of a silver dollar. At times the leg itches severely; at other times it burns. Glycerole gr. xl ad ʒi. Bandage the leg well; do not wash it. June 22.—Improvement. Some of the oozing patches are almost gone; the squamous portion is softening and looking more normal. There is very little itching. June 24.—Much improvement. Had a relapse. Begin again with gtt. xxv ad ʒi. July 8.—About well.

Case X.—James L., æt. 19. June 6. *E. rubrum, leg.* Present attack about six months' duration. Usually comes in winter and goes in summer, but this year has persisted. Patch size of two palms on inside of calf, below knee. *E. rubrum* in centre, scattered vesicles above edge. Itches and burns. Glycerole gr. xxx ad ʒi. July 3.—Used glycerole as long as it lasted. Has done nothing for last two weeks. Patch of disease much reduced in size. Quite brown. No itching or burning. Apparently well, in fact. Continue glycerole, however, for a week or two longer.

Case XI.—Catherine D., æt. 36. November 28, 1877. *E. rubrum, leg and hand.* Patches of disease, various in size from single papules or vesicles to palm-sized, bright-red, oozing patches scattered over the leg from knee to ankle. Incipient *E. rubrum* back of hand. Severe itching and burning. Some months' duration. The patient a cook, and obliged to stand all day before the fire. No varicose veins. Glycerole gr. xxx ad ʒi. Refrain from washing. Bandage. The patient improved slowly for about six weeks under this treatment. Then the disease came to a stand, and pustules caused by glycerole appeared over good skin. Use of glycerole continued, however, until February 8, 1878, when color of patches was noted as brown. A week later, however, fresh crops of pustules began to appear, and the condition of the limb grew worse. March 8.—Stop glycerole; apply calomel ointment. April 2.—About well.

In this case the glycerole, although faithfully tried, failed entirely. It even seemed to disagree with the skin, causing the eruption of pustules in successive crops, as mentioned. The exact reason for this effect of the glycerole is not evident. This case, it will be observed, differed from the preceding ones in the character of the lesions, which were more superficial and acute, the color of the eruption being bright red, and not dusky, as in the usual form of eczema rubrum.

Case XII.—John O'D., æt. 73. March 14. *E. rubrum, leg.* The whole limb involved, from knee to ankle, swollen, œdematous, and having an ulcer three inches in diameter outside of, and just above, the ankle. The latter of a year's duration; the eczema five months'. Glycerole gr. xx ad ʒi. Not to be washed. Bandage. March 23.—The glycerole burns: make it gr. xv ad ʒi. April 5.—Has not done well under the glycerole. The leg is more swollen, and the ulcer no better. He suffers a good deal of pain. A few pustules can be seen scattered about over the healthy skin near the eczematous surface. Stop the glycerole and use calomel and oxide of zinc.

The absence of any subsequent history in this case leaves it in doubt as to whether the want of success here was due entirely to the failure of the glycerole, or whether it might not also in part be due to want of proper care in bandaging and rest. But there seems no question but that the glycerole failed to act as favorably as in some of the other cases noted.

Case XIII.—John B., æt. 57. February 12. *E. vesiculos, hands.* Disease affects both hands, also wrists; chiefly backs, except towards tips of fingers. Skin red, infiltrated, covered with scales and crusts, a few fissures here and there. No weeping at present, though there has been oozing formerly to some extent. Itching and burning severe. Duration about a year. Glycerole gr. xx ad ʒi on one hand; calomel and ung. zinci oxid. on other. February 19.—Improvement in both hands, but the calomel ointment has proved by far the most effectual. Stop glycerole, and use calomel alone. March 9.—Getting well under calomel ointment.

The failure of the glycerole here could not be attributed to its disagreeing with the skin, or causing irritation, as might be supposed in Case XI. It did no harm, but, on the other hand, did little or no good. It seems possible that, there being comparatively little infiltration, the disease being confined to the upper layers of the skin, the glycerole had no opportunity of exercising that osmotic influence with which it is credited by Mr. Squire.

Case XIV.—Samuel S., æt. 76. March 1. *E. rubrum, leg.* Whole limb involved. Much swelling and extreme induration; the limb feels as if carved out of wood. Skin red, inflamed, moist, and weeping, covered with crusts. Severe itching. Tendency to *E. papulosum* over body. The patient is an invalid, almost helpless. Glycerole gr. xx ad ʒi. Wash daily with soft soap and hot water. March 27.—Marked improvement. Less infiltration, leg assuming its normal size and

appearance, no weeping or crusting. Excepting that the itching remains unabated, the improvement is remarkable. April 11.—Improvement continues. Induration of skin continues, though somewhat less. It feels as if encased in thin brown leather. The integument cannot be pinched up, or even wrinkled, at any point. Itching is very severe. Continue glycerole. Wash with tar soap. June 12.—Improvement continuous, but slow. Itching intense, and seems to impair his condition. Stop glycerole. Ordered thymol wash. June 26.—Itching markedly decreased. The thymol has given great relief.

In this instance the glycerole did its work quickly and well, up to a certain point, when it ceased to exert a beneficial effect. It seemed to have only a slight effect on the leathery condition of the integument, and absolutely no influence upon the pruritus, which was at all times a severe and trying symptom.

The results obtained in the series of cases above noted, and also in others coming under our observation during the last six months, lead to the following conclusions. In glycerole of the subacetate of lead we have a valuable addition to the therapeutics of certain forms of chronic eczema, particularly *E. rubrum* of the lower extremities. It is most useful in those cases where the affection is extensive, of a dusky hue, accompanied by much weeping, oozing, and infiltration of the skin, together with swelling and œdema of the subcutaneous tissues, and a full and varicose condition of the venous circulation. In such cases glycerole of the subacetate of lead, used with diligence, and followed by careful bandaging, constitutes a remedy of the highest value.

Glycerole of the subacetate of lead has not, however, any anti-pruritic qualities, excepting in so far as it may reduce the œdema which sometimes appears to give rise to pruritus. Nor has it any resolvent effect upon infiltration of the more superficial layers of the integument. In this respect it fails just in those cases and at that stage of *E. rubrum* where the skin is no longer acutely inflamed, but is thickened, indurated, and pruriginous; in other words, where ordinarily the preparations of tar and potash are most useful.

Glycerole of the subacetate of lead fails, moreover, to exert a favorable influence in those cases of *E. rubrum* where the disease shows itself in numerous variously-

sized superficial patches, and where the deeper layers of the skin do not appear to be affected. With regard to its effect in the vesicular and squamous varieties of eczema, this is not satisfactory, and it is less favorable in proportion as the case departs from the typical form of *E. rubrum*.

Occasionally the glycerole is found to disagree with the skin. This, however, does not often happen, at least not nearly so often as in the case of glycerine.

ON THE PHYSIOLOGY OF HEMIPLEGIA.

BY B. F. LAUTENBACH, M.D., PH.D.

BY hemiplegia is meant a palsy involving the muscles of one-half of the body. All the muscles of the paralyzed side need not be affected, and usually the occipito-frontalis and internal muscles of mastication escape. As was already pointed out by Marshall Hall,* reflex movements still occur in the paralyzed limbs. When the patient labors under strong excitement, even voluntary movements frequently occur on the hemiplegic side of the body, showing that under these circumstances voluntary movements are still possible. Such cases have been reported by Wicks,† Abercrombie,‡ Carpenter,§ and numerous other authors.

The corpus striatum and optic thalamus are most frequently the seat of the lesion which produces hemiplegia. This lesion has usually, though not constantly, been found involving the side of the brain opposite to that on which the body is paralyzed. Lesions of the hemispheres, of the cerebellum, of the pons, and of the medulla oblongata, may also produce hemiplegia. The nature of these lesions varies, as does also their extent. Most usually palsy of one side of the body results from a hemorrhage following rupture of one or more of the arterial capillaries of the opposite side of the brain; but it may be caused by a tumor, by encephalitis, or by some cause which cannot be detected after death.

It is well known that the extent of brain-tissue involved by the lesion by no means determines the extent of the paralysis. In one person a lesion involving a large por-

* Lectures on the Nervous System, London, 1836.

† Vers. ein. Monog. d. grossen Veitstanz, etc., Leipsic, 1844.

‡ On the Brain, Philadelphia, 1831.

§ Human Physiology, 1855, note on p. 635.

tion of the brain will not produce paralysis, while in another a similar lesion of less extent, involving, however, the same portion of the brain, will produce hemiplegia. Again, in another patient, the lesion producing the hemiplegia may involve both sides of the brain (apparently) equally.

Why does a lesion in these various portions of the brain produce hemiplegia?

The two explanations almost universally adopted at present are—1, that hemiplegia results from the destruction of voluntary-motor centres situated in the brain; 2, that it is due to the destruction of the channels along which the voluntary-motor impulses are conveyed to the muscles.

Neither of these explanations is satisfactory, as can be shown by arguments derived from physiology and pathology.

Physiological reasons.—Destruction of any portion of the hemispheres of mammals, below man, is never followed by motor paralysis.* Destruction of either the corpus striatum or optic thalamus in animals is never followed by this symptom. Extirpation, in mammals, of the whole brain above the corpora quadrigemina, is not followed by abolition of the voluntary movements. Indeed, I have found that dogs and cats after this operation walk without more difficulty than an animal which has suddenly been blinded. Consequently, in animals below man the centres of voluntary motion are not situated in the brain above the corpora quadrigemina. Up to the time (January, 1874) that I commenced these investigations, cerebral hemiplegia had never been observed, so far as I am aware, in animals below man.

Pathological reasons.—There are numerous cases on record of destruction of these portions of the nervous system, in man, without producing any loss of movement whatsoever.

McDowell† reports the case of a boy aged 17, who was kicked in the fronto-parietal region by a horse. Considerable of the brain protruded through the opening, and a portion of it sloughed away. The patient recovered without paralysis.

Mendenhall‡ reports the case of a man struck lengthwise with an axe on the right side of the head, just above the ear. The bit of the axe was buried in the skull. The patient lost over two tablespoonfuls of brain-substance, yet recovered without paralysis.

Pridanna§ records the case of a man kicked in the forehead by a horse. Fracture of the frontal bone and loss of considerable brain-substance through the opening made. No palsy.

The case of a boy, aged 17, is recorded by Cheney|| Shot entered outer edge of superciliary ridge, and passed backwards towards the sagittal suture, carrying with it about one tablespoonful of brain-substance. The patient recovered without paralysis.

Snyder¶ reports the case of a boy, aged 18, who was thrown by a horse head-foremost on rocks. Fracture of the skull at the middle portion of the temporal arch between the parietal protuberance and frontal suture resulted. About a tablespoonful of the middle lobe of the brain was removed. The patient recovered without paralysis.

Cooper** records the case of a boy, aged 12, on whose head a heavy door fell. A large nail, protruding from the door, penetrated the brain through the right parietal eminence. No paralysis. The patient recovered.

Kirkbride†† reports the case of a man, aged 28, who was kicked over the right eye by a horse. No paralysis resulted. The patient died seven days after the accident. Five large pieces of bone were found in the substance of the cerebrum. The anterior and part of the middle cerebral lobes were completely disintegrated on the right side.

Bell‡‡ reports a case of atrophy of one-half of the cerebrum, without paralysis.

Lacroix§§ observed complete congenital absence of the anterior lobes of the cerebrum in a person who never was paralyzed.

Cruveilhier||| records a case of fungus of the dura mater, which destroyed both anterior cerebral lobes, without producing paralysis.

* This may sound strange at first, when the experiments of Hitzig and Ferrier are thought of. The results obtained by these and other investigators can be explained (vide paper by author in Amer. Jour. of Med. Sci., Oct. 1877) by the fact that fibres, or "centres," concerned in the tactile sense are situated in the portion of the hemispheres where the motor "centres" are said to be.

† Amer. Jour. of Med. Sci., 1858, vol. ii. p. 15.

‡ Amer. Jour. of Med. Sci., 1869, vol. i. p. 371.

§ Gaz. des Hôpitaux, Jan. 1867.

|| Amer. Jour. of Med. Sci., January, 1867, p. 146.

¶ Ibid., January, 1867, p. 270.

** London Med. Gaz., May, 1839.

†† Amer. Jour. of Med. Sci., November, 1839.

‡‡ Rev. Méd., Juin, 1831.

§§ Ibid., Mai, 1830. ||| Ibid., Mai, 1830.

Bodey* records a case in which the left cerebral lobe was reduced to half its normal size, and yet no paralysis occurred.

Maunsell† reports a case of extensive destruction of both hemispheres, from which the patient recovered without paralysis.

Griswold.‡ Boy, aged 2 years. Fell down stairs, on to the pointed extremity of a chair, which passed one and a half inches into the skull, entering the temporal bone just above the tragus. Force was necessary to separate the chair from the skull. The substance of the brain was much broken up, some portions adhering to the chair and others still protruding. A large quantity of brain-substance sloughed away, but the child recovered without paralysis.

Beyer§ reports the case of a child in whom the whole (?) brain was destroyed *in utero*. After its birth the child cried and moved its limbs.

Phenomena similar to those observed by the last-mentioned author have been observed by numerous other authors in acephalous children.

Robertson.|| First case. Injury inflicted with a two-pound weight on the left side of the frontal bone. Many of the fragments of bone were driven deep into the substance of the brain. These were removed, and the patient recovered without paralysis.

Second case. An old negress was struck over the left eye with a triangular piece of timber, held by a negro in both hands. The wood was literally driven into the brain, carrying with it fifteen or twenty fragments of fractured bone. A considerable amount of brain-substance was lost. In less than one week the patient walked out. Ten years later no paralysis had appeared.

Abercrombie¶ relates a case in which he found a hydatid, three inches long and two broad, in the substance of the right hemispheres. During life no symptoms of hemiplegia had been observed.

Trull** relates the case of a boy, aged 15. A conical musket-ball entered the skull near the right parietal eminence. No paralysis was produced. The patient died in three days. At the autopsy the

bullet was found in the left lobe of the cerebrum, near the "island of Reil." A considerable portion of the cerebral substance was displaced.

Hutchinson†† reports the case of a girl, aged 7 years. A buckshot passed through the posterior lobes, rebounded, and lodged in the brain-substance. No paralysis was produced. The child died six months later, of scarlatina.

Cases of this kind could be multiplied indefinitely, but I will, for the present, finish the list with the account of two remarkable instances of brain-injury which failed to produce paralysis.

The first of these cases was reported by Harlow.‡‡ A man, aged 25 years, was charging a hole, preparatory to blasting, when the powder exploded, driving the tamping-iron against the left side of his face, immediately anterior to the angle of the inferior maxillary bone. Taking a direction upwards and backwards, it entered the cranium, passed through the left anterior lobe of the cerebrum, and made its exit in the median line, at the junction of the coronal and sagittal sutures, lacerating the longitudinal sinus, fracturing the parietal and frontal bones extensively, breaking up considerable portions of the brain. The tamping-iron was round and smooth, three feet seven inches long, one and one-quarter inches thick, and weighed thirteen and three-quarter pounds. The patient was thrown upon his back, and gave a few convulsive movements of the extremities, but spoke in a few minutes. He then rode three-fourths of a mile on an ox-cart, sitting erect, and then got out of the cart himself, and with a little assistance walked up a long flight of stairs. Considerable portions of the brain were removed. The accident occurred on October 13, and the patient was out walking early in November, showing no signs of paralysis. He died many years later.

Folson§§ has reported a still more interesting case. A man, æt. 40, on the 18th of August, 1864, was wounded in the head by a circular saw. The wound extended from half an inch above the nose to a little to the left and below the occipital protuberance, passing through the superior edge of the parietal bone. The membranes as well as the substance of the

* Rev. Méd., Mai, 1830.

† Edinb. Med.-Chir. Jour., January, 1830.

‡ Amer. Jour. of Med. Sci., May, 1837.

§ Hecker's Jour., 1833.

|| North Amer. Med. and Surg. Jour., vol. ix. p. 433.

¶ On the Brain, Philadelphia, 1831.

** Amer. Jour. of Med. Sci., vol. xlix. p. 553.

†† Buffalo Med. and Surg. Jour., January, 1866.

‡‡ Ibid., December 13, 1848.

§§ Pacific Med. and Surg. Jour., May, 1869.

brain were divided. The wound extended three inches into the skull-cavity, and must have reached nearly, if not quite, to the base of the brain. The patient was dismissed recovered at the end of three weeks. No mental or physical derangement had occurred up to the time of Dr. Folson's record of the case. The saw which caused the injury was one-eighth of an inch thick, eighteen inches in diameter, and cut with a speed of about two thousand revolutions per minute.

In each of the last two cases at least one side of the brain was placed out of function by the injury, and yet no paralysis occurred. The last case is an exceedingly remarkable one, as it shows (what I have confirmed in animals) that a complete longitudinal hemisection of the brain occurring in man is not necessarily followed by any loss of motion.

From the above-given instances it seems justifiable to conclude that cerebral hemiplegia cannot be due to a destruction of excito-motor "centres," or of fibres proceeding from these to the motion-producing mechanisms in the spinal cord.

Why, then, does a tumor, or a hemorrhage, in the vicinity of the corpus striatum, so frequently produce hemiplegia? Is it due to pressure on distant portions of the nervous system?

Physiological reasons for not believing this latter to be the cause.—An injection of water, or of some other inert substance, into any portion of the brains of animals, never, in my experiments, produced paralysis of motion. As water thus injected must certainly exert as much pressure on distant portions of the nervous system as tumors or hemorrhages in the same part of the brain, it must be concluded that pressure of this kind will not produce hemiplegia in animals.

Pathological reasons.—Hydrocephalus certainly produces great pressure on distant portions of the nervous system, yet very often it fails to produce paralysis. Again, it is well known that a large tumor may exist in the neighborhood of the great ganglia, and yet produce no symptoms. In other cases a small hemorrhage into the same place will produce hemiplegia. Hemiplegia can certainly not be due to pressure.

Is Brown-Séquard's theory, then, true, that central paralysis is the result of an irritation? An irritation, if the term still means what it did in the time of Haller,

can never produce paralysis.* It must always stimulate or excite the function of an organ, but it never can destroy this function. The fact that an irritation applied to the skin may reflexly inhibit certain actions, certainly does not prove that the "irritability" of the portion of the nervous system whose action is inhibited is increased. On the contrary, it shows that the "nerve-force," which would have discharged itself through this channel but for the irritant applied to the skin, has not done so. This inhibition must result from what is usually known as a "depressant action."

Direct irritation of nerve-fibres must produce movements or sensations of some kind, yet following brain-lesions in which fibres are involved paralysis often occurs. If the same lesion, occurring in the same portion of the brain, always produced paralysis, it might still be contended that this symptom was due to irritation; but the same lesion of the great ganglia will in one patient produce hemiplegia, in another convulsions, and in a third no symptom whatsoever. For these reasons I do not believe irritation to be the cause of hemiplegia.

If cerebral hemiplegia is due to none of the above-mentioned causes, how, then, are we to account for its production?

In September, 1876, I commenced to study the effect of irritation of a polarized nerve. Previously, Nobili,† Matteucci,‡ Valentin§, and Eckhard,|| had shown that the muscular contractions produced by irritating a motor nerve could be prevented by passing through a portion of the nerve, either above or below the irritation, a constant or polarizing current. Pflüger,¶ using less powerful currents, determined that the excitability was increased by the polarizing current to the side of the kathode and decreased to the side of the anode.

In my investigations,** it was found that the effect of the irritation of a polarized nerve, as compared with that of a nerve not polarized, depends largely on the proportion which exists between the strengths

* The term irritability, when used in physiology, means the power possessed by living organized beings (or structures) to move responsive to stimulation. By irritation is meant the production of an excess of vital movement in a tissue or organ.

† Annales de Chimie et de Phys., Mai, 1850.

‡ Essai.

§ Lehrb. d. Phys., Bd. 11.

|| Beiträge z. Anat. u. Phys., Hft. 1, 1855, etc.

¶ Physiol. d. Electrotonus, 1859, etc.

** Arch. des Sciences phys. et natur., Fév. 1877.

of the two currents. When an irritating current, sufficiently strong to produce tetanus, was used, I was enabled to prevent all contractions from occurring in the tetanized limb by applying to the nerve a polarizing current of a certain strength. If now an irritating current, just sufficient to produce slight muscular contraction, was employed, according to the strength of the polarizing current would the contractions produced by the former current be increased, prevented, or not affected. In the same manner, varying the strength of the irritating current will influence the effect of the polarization.

May these results not be of service in explaining the hemiplegia and other symptoms following hemorrhage or tumor in the brain? The irritation would here be the excito-motor impulse. It is well known that when we increase the strength or intensity of this impulse by exciting a hemiplegic person, he will often voluntarily move the palsied limbs, but if the excitement is now removed the hemiplegia will again be apparent. Varying the strength of the irritation (*i.e.*, the excito-motor impulse) under these circumstances, determines whether, for the time being, the patient is hemiplegic or not. The polarizing influence is produced by the hemorrhage or other lesion setting up a constant current in the brain-fibres.

Does the blood in apoplexy act as a polarizing agent? In some experiments on the peripheral motor nerves I found that coagulating blood would replace a polarizing current in its effects on the irritability of the nerves. In other experiments, blood taken from the jugular vein of one animal was injected into the brain, in the vicinity of the corpus striatum of one side, of another. Very frequently hemiplegia of the opposite side of the body was produced. Sometimes, instead of being palsied, the animal was convulsed; and in still other instances no effect was produced.

Ammonia is another polarizing agent which, injected in very small quantities in the neighborhood of a corpus striatum, will frequently produce hemiplegia. The glucoside saponin acts in the same manner.

The above I believe to be the first mention of true hemiplegia ever having been produced in mammals below man. In repeating these experiments it seems advisable to use as old animals as can be obtained, as all my experiments in which

hemiplegia occurred were made on old dogs and cats. The action of ammonia seems to be the most marked of any agent which I have thus far employed in producing the symptoms in animals which are produced by hemorrhage in the brain in the human subject.

The facts above given certainly seem to indicate that *cerebral hemiplegia is due, not to destruction of brain-substance, nor to irritation or pressure, but to polarization.*

NOTES ON A CASE OF STRABISMUS—TREATMENT, WITH REMARKS.

BY WILLIAM S. LITTLE, A.M., M.D.,
Chief of Eye Clinic, Jefferson Medical College Hospital.

AUGUST 13, 1877, Miss B., æt. 13, came under observation for the relief of a divergent squint of the left eye, giving the following history:

The left eye had been operated on for a convergent squint when she was three and a half years old, it having existed since a few months after birth.

It was discovered, when five years of age, that vision in the left eye was not good, and since the operation a divergent squint had developed, leaving her eye in its present position.

She held her head to the right side, at an angle of forty-five degrees, giving her a very awkward appearance. She was compelled to do this to get rid of the perception of light or very indistinct image which was produced in the left eye. Having no power over the internal rectus of the left eye, she turned her head to the right, at an angle of forty-five degrees, by this means causing the right eye to turn inward, thus bringing the distinct image of the right eye and the blurred image of the left eye together; it being a source of less irritation to her than holding her head straight and not noticing the object produced by the left eye. By assuming this position, she really had a convergent squint of the right eye.

By partially closing the lids of the left eye, or narrowing the palpebral fissure, the irritation from the blurred image was not so noticeable to her, when the two images were united by this position of her head.

At school she sat sideways at her desk, when writing or studying, and was continually reprimanded for her odd position, which was entirely unavoidable, for either her head or her body had to be at an angle of forty-five degrees to the right from the natural position, to enable her to see to the best advantage. Her appearance was odd, and a great source of annoyance to her.

She complained of headache, also of pain down the back of the neck.

When holding her head straight and fixing with the right eye, the left moved outwards and slightly upwards; when fixing with the left eye, she always assumed her accustomed position, head at an angle of forty-five degrees to the right, squinting inwards with the right eye.

Her vision was found to be:

R. E. $V = \frac{20}{XX}$. Slightly astigmatic.

L. E. $V = \frac{3}{C}$. Could only see one letter at a time in the line; she narrowed the palpebral fissure to do this.

The pupil of the left eye was slightly larger than the right.

A careful examination of the field of vision showed the

Right eye normal.

Left eye contracted to the nasal side; also the upper and lower portion; measuring longest horizontally 25'', longest vertically 18''. This field was taken 2' from the eye. When drawn, it resembled in shape a shoe, the heel to the nasal side.

With the ophthalmoscope, the

Right eye was normal, beyond slight astigmatism.

Left eye showed disc distorted, elongated, at an angle of 135°; red; vessels twisted; retina appeared normal.

When first seeing the case I feared she might have suffered from a retinitis, her field being so restricted; but the ophthalmoscope relieved this fear.

August 14.—The left eye being atropinized, found with the stenopaic slit $V = \frac{20}{C}$; with

+12 cyl. axis 135°, $V = \frac{20}{LXX}$. With this

glass on the left eye, and using the right, got for the first time double images distinctly; heretofore only a sense of light in the left eye, she holding her head straight. A prism of 39° base outwards united these images.

The field of vision also increased with this lens, horizontally 37'', vertically 25''.

I applied at this time the faradaic current to the internal rectus of the left eye, to stimulate it, and also over the eyeball, to affect the retina and nerve, for they had been practically idle all her life.

August 15.—Left eye. $V = +12$ cyl. axis 135°, $\frac{20}{XL}$; after battery, $V = \frac{20}{XXX}$.

August 18.—Left eye. $V = +12$ cyl. axis 135° = $\frac{20}{XX}$. Field normal.

Right eye. +60 cyl. axis 135° corrected astigmatism.

The battery was continued every other day to internal rectus of left eye till September 7, when the external rectus of the left eye was divided, having informed the patient from the first that it was necessary. Dr. Jesse Williamson kindly assisted. Gave no ether.

Glasses put on and worn continually. Formula same as above.

September 8.—Found double images at 20', three feet apart; homonymous diplopia; this was due to one or two small fibres of tendon undivided; these I cut; holds head straight.

September 10.—Found single images at 15' and inward; holds head straight; exercises eyes daily; begins to read with left eye.

November 11.—Sees images single at 40'. No diplopia; no headache, or pain down back of neck; reads well; holds head straight; wears glasses continually.

This case is interesting and instructive, as showing how necessary it is to give a thorough examination in cases of strabismus for the cause of the condition.

It also exhibits how an eye practically worthless on account of optical defects can become useful with the use of a proper lens, making an operation successful, both removing the cosmetic defect and giving the eye its function to perform.

The right lens must be found; a spherical glass is of no avail where a cylinder is required.

Hypermetropic astigmatism, as well as simple hypermetropia, produces a convergent squint; the divergent squint was caused by an over-operation in this case on the internal rectus, and no lens being given at the time to correct the vision, the eye could not work as it should, and it remained divergent. Glasses, of course, could not have been given the child at three and a half years of age: so nothing is gained by operating on children till they know their letters and can understand what is required of them.

The surgeon in this case did his best, for at that time errors of refraction were not treated as now,—especially astigmatism.

The cause of strabismus is now to be found, in the great majority of cases, in the errors of refraction, insufficiency and true paresis of muscles and lesions of transparency being the other causes; where these errors exist, a correction should be found before operating.

The ophthalmoscope will reveal them in early childhood; the defect, being permanent, can be corrected later, when the patient can help the success of the case by carrying out the advice given.

The tendency of persons suffering from astigmatism, especially of a high degree, to narrow the palpebral fissure, makes it a diagnostic symptom of value. One can diagnose the defect by this symptom

alone; a further scientific examination proving its value as a symptom; it existed in this case.

The peculiar restriction of the field, present in this case and simulating an affection of the retina, was gradually relieved after the glass was given and the retina able to receive a distant image, the eye, as well as any other organ of the body, requiring exercise in order to keep it healthy.

Her accommodation was not strong enough to overcome the degree of hypermetropic astigmatism existing; the act of narrowing the palpebral fissure was of some relief to her; but the retina received a distorted image, and a false impression was conducted to the brain. The cylinder given for the eye was a $+12$ cyl. axis 135° , and it caused a distinct image to fall on the retina. The eye being thus made useful after the operation, it performed its function with the right eye, and will continue to do so.

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THE UNEQUAL LENGTH OF NORMAL LIMBS SHOWN BY MEASUREMENT OF THE BONES.

BY JOHN B. ROBERTS, M.D.

A GOOD deal of attention has been directed recently, both here and abroad, to the fact that the limbs of the two sides are seldom of the same length. The fact that after fractures of the femur it is often impossible, by the most skilful treatment, to make the legs of the opposite sides measure the same, probably first called forth an investigation of the subject.

A large number of observations have been made by Cox and Wight, and it has been found that the two limbs, neither of which has ever sustained fracture, often differ as much as half an inch in length. These results have not been credited by some; but as the importance of the subject is readily seen it is evident that, if true, every one should be cognizant of this frequent want of symmetry in the length of the two legs. As far as I know, all the measurements reported have been obtained by experimenting on living persons who have never received any fracture of either limb. It is well known that there is great difficulty in making accurate determinations on the living subject, because of the liability of not getting the tape at exactly the same point on the two sides, owing to

the bony projections being covered with the soft parts, and because the limbs may not be perfectly parallel at the time of measurement. On account of this uncertainty it occurred to me that we could best settle the question by taking the bony skeleton itself.

I therefore have made accurate measurements of the femurs and tibias of eight skeletons, in the museum of the Jefferson College and elsewhere, in the following manner. I took an ordinary graduated yard-stick, and had a piece of iron fixed to one end at a right angle, while up and down the stick there played a slide with a similar piece of iron also at a right angle. This was employed just as a shoemaker uses his rule to obtain the length of the customer's foot. While measuring, I always kept the graduated side of the rule away from me, in order that I might not be involuntarily prejudiced by seeing the marks written on it. I measured the femurs from the top of the head to the prominent part of the lower surface of the internal condyle; and the tibias from the articular surface of the inner tuberosity to the lower edge of the inner malleolus. Care was taken that there was no evidence of fracture having ever occurred in either leg; and the appearances of the opposite bones were noted to see if there was any discrepancy which would lead me to believe that the bones had originally belonged to different subjects. Of course the evidence would have been more positive if I could have measured the limbs before death, and then have cleaned the bones and measured again. The existence of degrees of difference less than about one-sixteenth of an inch was not considered of sufficient clinical importance to be determined.

I give an epitome of the results; showing on which side the bone was longer, and to what extent, also how much longer the corresponding leg would be if the cartilages and ligaments were the same on both sides.

	I. Femur, R.	$\frac{1}{16}$ in.	Tibia, R.	$\frac{1}{16}$ in.	Leg, R.	$\frac{2}{16}$ in.
II.	"	R. $\frac{2}{16}$ "	"	0 "	"	R. $\frac{2}{16}$ "
III.	"	L. $\frac{5}{16}$ "	"	L. $\frac{5}{16}$ "	"	L. $\frac{1}{16}$ "
IV.	"	L. $\frac{1}{16}$ "	"	0 "	"	L. $\frac{1}{16}$ "
V.	"	R. $\frac{1}{16}$ "	"	R. $\frac{2}{16}$ "	"	R. $\frac{1}{16}$ "
VI.	"	R. $\frac{1}{16}$ "	"	one malleolus broken.	"	?
VII.	"	L. $\frac{2}{16}$ "	"	L. $\frac{2}{16}$ in.	"	L. $\frac{1}{16}$ "
VIII.	"	L. $\frac{1}{16}$ "	"	L. $\frac{1}{16}$ " *	"	L. $\frac{1}{16}$ "

* [The appearance of the tibias made me not certain that they had belonged to the same individual, though the femurs were evidently both taken from the same subject.]

These figures show conclusively to my mind the folly of endeavoring to make the limbs of equal length after one of them has sustained fracture; it may be possible if the patient happens to break the long leg, but what will be the result if he have this accident occur to the one already half an inch shorter than its fellow? Is the surgeon to continue his extension until both legs reach the same mark on his graduated tape? Especially is this to be deprecated when we recollect the probability of his measurements differing every day on account of the difficulty of applying the tape to exactly the same spot on each side.

It has been proposed that, instead of using the anterior superior spine of the ilium as a starting-point in these measurements, we should start from the top of the great trochanter and determine the length of the outer aspect of the limb. This would not be of service in fractures of the neck of the femur; and in addition it would be fallacious, for I found that measurements from the highest point of the trochanter to the outer condyle did not show the same difference as when the measurement was made from the head to the inner condyle, which is, of course, the true anatomical length of the bone. Sometimes, indeed, the right femur was longer when measured from the head, while the left showed greater length when the trochanter was used as a starting-point. This is understood when we recollect that the trochanter may have a prominence much more developed on one side than on the other, owing to ossification extending along an inserted tendon.

These results are, therefore, corroborative of the living cases measured by the gentlemen mentioned above, who selected individuals of known history for their observations, and found the same want of symmetry on the two sides. The fact has been doubted by so many that the subject should receive the consideration of all practical surgeons, since its bearing in medico-legal cases is very patent.

CLAUDE BERNARD'S SUCCESSOR.—The College of France held a meeting, May 28, for the presentation of candidates for the place left vacant by the death of Claude Bernard. On balloting it was found that M. Brown-Séquard received twenty-five of the twenty-eight votes. M. Davaien was the only competitor voted upon.—*La France Médicale*, June 1, 1878.

TRANSLATIONS.

ON THE ANALGESIA OBTAINED BY THE COMBINED ACTION OF MORPHIA AND CHLOROFORM.—M. Guibert (*Jour. des Sci. Méd.*, 1878, p. 254; from *L'Abeille Méd.*) says that by the use of these anæsthetics combined, the surgeon avoids that violent depression of the nervous forces and cerebral anæmia of the period of complete anæsthesia, the syncope occurring in the course of which, particularly where there has been violent excitation, is so often mortal. According to Mallow, morphia, in obtunding the sensibility of the respiratory mucous membrane during the first inhalations of chloroform, checks at the point of origin those reflex actions which prove so dangerous to the respiratory and vaso-motor centres. Contrary to what occurs in chloroformic excitation with hyperæsthesia, there is nothing to fear, with the analgesia of the combined action, from intense reflex action on the heart, due to the traumatism. The cause of syncope, when an operation is performed during excitation, upon which M. Perrin lays stress, is thus suppressed. x.

GENERAL PATHOLOGY OF SYPHILIS.—M. Cornil, the well-known histologist and pathologist, has begun a course of lectures on this subject at the Lourcine Hospital in Paris. An abstract of the first lecture is given in *Le Progrès Méd.*, May 25. M. Cornil, having defined syphilis and having shown it to be a virulent disease, traces out its relations with glanders and tuberculosis, with which he believes it to possess certain affinities. He then passes to the conditions of contagion of syphilis, and speaks of the theories of unity and duality. M. Cornil insists upon the anatomico-pathological difference between the "soft" and "hard" chancre. That which distinguishes the two sores most markedly, however, is the fact that the "soft" chancre appears directly after contagion, while the infecting chancre only shows itself after a longer or shorter period of incubation, usually ten to twenty-five days, but sometimes as long as two months. Contrary to the opinion of former times, it is now universally known that not only is the primary sore inoculable, but that any of the secretions of the "secondary" stage, serum, pus, blood, etc., may transmit the disease. Certain authors, as Fournier, maintain the existence of syphilis in the system from the moment of

inoculation and during the period of incubation, the chancre being merely the first outbreak of a disease which has been latent from the moment it came in contact with the surface. Cusco has even asserted that a person could become syphilitic by absorption of pus, without the appearance of a chancre being necessary. Renaut inoculated an animal with glands; one hour later he removed the bit of contaminated skin, notwithstanding which the animal had glands. On the other hand, Cohnheim placed a morsel of tuberculous matter in the anterior chamber of the eye of a rabbit, and it was only after eight days that the specific inflammation began to appear. So that analogy fails to support either the view of immediate contamination or that of incubation. M. Cornil remarked later upon the recent researches of Auspitz and Urma, where the excision of indurated chancres frequently resulted in non-appearance of secondary lesions. For himself, Cornil leans to the view that syphilis does not immediately become generalized, but spreads gradually from the initial lesion. x.

PHYSIOLOGICAL AND THERAPEUTIC EFFECTS OF THYMOL.—Dr. Baltz (*Archiv der Heilk.*, Bd. xv., 3. und 4. Heft) gives the results of comparative experiments made with thymol and salicylic acid. These are as follows. It was necessary to give twenty-five to thirty grains a day in order to produce any appreciable therapeutic result. If the medicine came in contact with the mucous membrane of the mouth, it gave rise to an acrid sensation. Taken internally it sometimes produced nausea, and in increased doses a momentary sensation of heat in the epigastrium, and sometimes slight diarrhoea. Hypodermic injections of thymol usually caused, within half an hour, more or less circumscribed and abundant perspiration, always less, however, than that produced by salicylic acid or jaborandi. Sometimes an increased secretion of greenish-brown urine was observed. Nervous phenomena were sometimes noted, such as tinnitus aurium, deafness, constriction of the temples. In one case of typhoid fever a dose of forty-five grains produced violent delirium lasting some hours, but ceasing as the temperature fell. In another case of typhoid fever the patient lost consciousness, and then passed into a state of delirium followed by collapse which lasted some hours. In typhoid fever and articular rheumatism, and often in phthisis, a

dose of thirty to forty-five grains lowered the temperature 3° to 5° F., but often this lowering of temperature went on further than was intended, and the patient sank into collapse. To avoid this accident, thymol should be given in broken doses, four grains every hour, which would amount to about a drachm and a half in twenty-four hours. Thymol diminishes the frequency of the pulse, but not in proportion to the lowering of the temperature. Hypodermic injections of thymol do not act favorably. Baltz concludes that thymol is without doubt an antipyretic, but uncertain in its action, and not equal either to salicylic acid or salicylate of sodium. x.

COMPRESSION OF THE EPIGASTRIUM IN HICCOUGH.—Dr. Favier (*La France Méd.*, 1878, p. 276; from *Four. de Méd.*) had treated a patient suffering from hiccough with blisters covered with morphia, moxas to the epigastrium, injections of morphia, ether, bromide of potassium, chloral, etc., without avail, when it occurred to him to compress the patient's epigastrium firmly with the aid of an abdominal tourniquet. In five minutes the hiccough, which had lasted fifteen days, ceased completely. When the compression was suspended, the hiccough at first returned, but shortly disappeared permanently. x.

PARENCHYMATOUS INJECTIONS OF ACETIC ACID IN CARCINOMA.—Th. Gies (*Cbl. f. Chirurgie*, 1878, No. 19; from *Deutsche Zeitschr. f. Chirurgie*) injected hypodermically a solution of dilute acetic acid (1 part acid. acet. glacial. to 3 parts water) into a relapsed carcinoma, the size of a hen's egg, situated on the edge of the lower jaw. It suppurated, and finally became reduced to the size of a hazel-nut. In the same patient a similar carcinoma, the size of a hen's egg, situated behind the ear, suppurated, finally, after twenty-five similar injections, and at the end of twenty-one days had almost entirely disappeared. In the case of a woman who had a carcinoma of the same dimensions in the left mammary gland, ten injections sufficed to bring about suppuration, and in the course of a month the tumor had shrunk to the size of a hazel-nut. (The treatment seems worth a further trial, but the value of the above cases would have been more than doubled if the after-history had been followed out. What became of the hazel-nut-sized mass left behind?—that is the question.—TRANS.) x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 3, 1878.

EDITORIAL.

INTERNATIONAL COPYRIGHT.

THE British Royal Commission on Copyright has made a report which, although not absolutely unanimous, is in its main points supported by a very large majority of the commissioners. The commissioners appear to believe that copyright is not a natural, but merely a statutory, right of the author. We cannot see why the results of labor are not, in accordance with the fundamental axiom of modern civilization, the reward of the laborer, whether such results take the form of brick and mortar or of written ideas. The right of the author seems to us plainly a natural one, founded upon the first acknowledged principles of justice. The lack of an international copyright law works, therefore, a gross injustice to the individual author, as well as an injury to this rising nation by discouraging literary and scientific effort. It has fostered a class of publishers who may well be compared to the mediæval baron scanning with eager eye the valley over which the rich caravans of commerce pass: with a gaze as intent as his, they watch, not the devotees of trade, but the authors of England, hoping to snatch from them whatever their toil may obtain or produce. It is a curious instance of the decisive effect of self-interest and custom upon morals that men in other transactions the most scrupulously honest see no impropriety in this "piracy," or at most are able to quiet conscience by offering as a gratuity a tithe of that which honestly belongs to the laborer.

English authors consider that they are the chief sufferers; but in applied science,

at least, the blows fall as heavily upon the American writer.

Dr. Smith, in England, produces a work on fever, as does also Dr. Jones in America. These treatises are, we will suppose, of equal merit. From his publisher Dr. Jones receives a copyright of a dollar a volume, which is of course added to the price of the book. But Dr. Smith's work is put upon the market by a rival house, burdened by no copyright. Consequently, Dr. Jones has either to see his book replaced by underselling or to forego the reward of, it may be, his many years of labor.

Any acknowledgment of this gross injustice of our copyright relations, any growth of public opinion towards calling the practices of publishers by the expressive name descended to us from the mediæval French,—robbery,—should be looked upon with pleasure. Much more satisfactory is the proposal of the British commission to apply a remedy, partial though it be. This is the according to all foreigners publishing books in the British dominions the same rights as British subjects, on condition that the books be first published on British soil.

This remedy, unfortunately, does not reach the case of the American medical author, but it is probably the best that lay in the power of the commissioners. It will greatly benefit the purely literary author, and by its public assertion of a right will aid in fostering that public opinion which sooner or later will see justice done, even to the man who writes medical books in the United States.

TREATMENT OF FAVUS.—Sawicki uses a paste of pulverized chalk or gypsum containing from five to ten per cent. of carbolic acid. This is applied all over the head after cutting the hair short. On the third day the dressing is removed, the head washed with soft soap and water, and the paste re-applied. A little oil may be added to render the dressing more pliable. It is said to effect a cure after three or four applications.

CORRESPONDENCE.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES:

DEAR SIR,—Several articles have appeared in the *Times* on different occasions, in regard to the abuse of the medical dispensaries in various parts of the city; and to give you some idea of the manner in which it affects many of the physicians in this city, I will give you a few facts from my own experience; and in conversation with quite a large number of medical men in the lower part of the city, they agree with me that their experience is the same.

I will cite a few cases, for the purpose of showing the financial standing of some of the patients who avail themselves of the free dispensaries. I met a gentleman in the cars, the other day, and he was congratulating himself that he had no doctor's bill to pay this year. I asked him to explain. He said, "What is the use of paying a doctor a fee, when I can go over to the University Hospital and get all the advice I want without paying for it?" Now, I know that this man is the owner of the house he lives in (and it is a nice one, by the way), and is in the grocery business, and doing very well, and a short time since made alterations to his house which could not have cost less than five hundred dollars. Another man (whose family I had attended on one or two occasions) fell and fractured one of his clavicles. He called at my office to have it treated, but I was out. He was told that I would return in a few minutes. He replied, "Never mind: I will just go up to the Pennsylvania Hospital and have it attended to;" and he did. Some time after that he was unfortunate enough to fracture his radius, just above the wrist, and he went to the same place to have it treated. This man also owns considerable real estate, and has a paying business besides, and is perfectly able to pay for the services of a physician. I could go on and cite you a number of just such cases, but I will not take up your time. But it only goes to show that the different benevolent institutions are being made use of in an improper manner by persons who are able to pay for advice. In conversation with a physician of ten or twelve years' practice in the lower part of the city, and whom, if I should mention his name, you would know well, he said, "I used to do a considerable amount of minor surgery, but now it is rare that I have a fracture to treat, as they go up to the Pennsylvania Hospital and get it attended to; and by going up there daily, or as often as necessary, they in that way avoid calling on a physician; and as for diseases of the eye, the many dispensaries for that class of affections in the different hospitals and other places monopolize them all." I believe that two-thirds of all the people that visit the free dispensaries in this city are able

to pay something. I know that from my own observation, as an assistant in one of the hospitals; and to give some idea of the extent to which patients go to these places, I may state that some days we would prescribe for fifty to sixty patients, and that only in the medical department; and when we take into consideration the surgical, eye, skin, nervous, and all the other departments, an approximate estimate can be made of the great number of patients that visit that place; and then add to this all the other hospitals and dispensaries, and we will have a very large number. I contend that the careless manner in which patients are received at these places is all wrong,—wrong to the benevolent people who furnish the means for carrying on the work; wrong to the worthy poor who are unable to pay; and wrong in depriving those who are really deserving from receiving benefits. But we are told that the colleges require material for lecturing purposes. I grant that; but we know that hundreds go there who are of no practical use and should be stricken from the list of patients. I think this subject demands the attention of the regular practitioners in this city, and on that account I have written at considerable length, for, knowing that the *Times* has great influence among its numerous subscribers, I thought perhaps they might be induced to propose a remedy, by the subject being introduced by the editor.

I did not intend this for publication, as it has been written in a great hurry, but you can do what you like with it. W. C. S.

PHILADELPHIA, July 18, 1878.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, APRIL 11, 1878.

VICE-PRESIDENT, Dr. HARRISON ALLEN, in the chair.

Mastoid disease—Trephining—Death—Clot in the lateral sinus. Presented by Dr. H. S. SCHELL, for Dr. WILLIAM W. KEEN.

JOSEPH JUDDY, æt. 17, admitted to St. Mary's Hospital December 9, 1875. When æt. 3, had the measles, and has had discharge from both ears, off and on, ever since. Four weeks ago had fever, and ear has been discharging freely. An incision had been made soon after over left mastoid process, opening an abscess. Has had some symptoms of meningitis.

December 10.—Had a rigor lasting an hour.

December 11.—*Condition.*—Is totally deaf in left ear, and moderately so in right. Is pale, trembling, sweating. Tongue clear. Left pupil a little larger than right, and reacts

to light. A blindness often seizes him on attempting to rise. Pulse 132. Intelligence good, but a little confused. Memory poor. On inserting a probe, dead bone is found on mastoid process, and the probe glides over its surface anteriorly into the external meatus, and also passes up into the squamous portion, one inch above and in front of the auricle, dead bone being felt all the way.

December 12.—*Operation.*—With Drs. Schell and Burnett in consultation, I made an incision back of the auricle, on the anterior edge of the mastoid, the other incision being too far posterior, and, with A. H. Buck's conical trephine, opened the mastoid, the walls of which were as yet intact. The opening was then enlarged with a small bit, and about a drachm of thick, cheesy pus evacuated. No loose bone was found. A tent was inserted, a poultice applied, and the wound ordered to be syringed daily with a solution of gr. ij chloral to fʒj of warm water.

December 14.—Had a rigor of half an hour's duration. Left ear is one and a half inches lower than right. No protrusion of eyeballs; no œdema of lids. Discharge more copious, and better.

December 15.—Appetite good; general appearance good; pulse 94. Neck feels stiff, and complains of trapezius and all the back of the neck. Coughing is painful. Ordered tonics and nutritious diet.

December 22.—Has had four rigors within a week, sometimes accompanied with vomiting. Has violent night-sweats. General appearance very bad; face flushed; great and constant headaches. On examination, his eye-ground showed distinct "choked discs," the borders of the papillæ being scarcely at all defined, and its surface almost as red as the retina.

December 23.—Deeming it probable that pus was forming on the inner surface of the necrosed squamous portion of the temporal bone, separating the dura mater from the bone, I called a consultation to decide the question of trephining this portion of the bone. If an opening already existed at the tegmen tympani, no harm would be done by a small and carefully-made opening, and if no previous one existed, and there was pus present, as every indication seemed to show, an opening here at the most likely spot would evacuate it, or, if the pus were over the petrous portion, would open "a path of least resistance," which would be followed by the pus if it was external to the dura mater. If in the brain, no further harm would be done, and the indications might be such as to enable us to relieve the patient by its possible evacuation. After a consultation it was deemed wise to make an exploratory operation.

Having etherized the patient, I made an incision from the old cut over the mastoid, horizontally, just above the ear, down to the

bone, and as far forward as the middle third of the zygoma.

Two branches of the temporal were ligated, the necrosed bone was cleared of the overlying soft parts, the ear pulled down, and thus the root of the zygoma exposed. Directly above this, and on a line with the external auditory meatus, I applied a conical-pointed trephine, and carefully cut through the thin and softened bone. This spot would admit me to the inner surface of the dead bone, and also would avoid in all probability the posterior branch of the middle meningeal.

Having penetrated the bone by an opening about the eighth of an inch in size, I saw the dura mater exposed. With great care I enlarged this by a drill to about one-quarter of an inch in size. The bone was not brittle, but fibrous, soft, and pliable. A small bubble of air escaped from the opening the moment the trephine was withdrawn, but it may have entered from the exterior. No pus at all escaped. With a bent probe I explored the interior, carefully hugging the internal surface of the bone and applying almost no force. The dura mater was detached all around the opening, and downwards and forwards; the probe easily entered for more than one inch, but no pus escaped. The dura mater was not inflamed, and it did not bulge out, as if pus existed in the interior of the brain; so I did not open it. Having thus established an opening, it was deemed imprudent to proceed further, and the soft parts were partially closed by four stitches, leaving the posterior inferior portion largely open for discharges, and a tent of silk was inserted. He reacted well, and expressed himself as feeling comfortable.

December 24.—Doing excellently. Slept well. Pulse 64, soft and good. Eye-ground as before. Wound looking well, and fearing lest the tent would irritate the dura mater, it was removed. Had a rigor of only half an hour's duration.

December 25.—Wound discharging slightly. Discharge of pus from the old one as before. Slept moderately well. Slight chill this morning, which was apparently cut short by a hypodermic of one-quarter grain of morphia. Head clearer; quite cheerful, and feels better than before the operation. Pulse 70. Ordered quinine.

December 26.—Another slight chill this morning; checked by morphia. Slept only fairly. Mental condition good, but does not seem so well. Appetite poor. No vomiting. Has some headache. Pulse 80. Wound looking well, and discharging as before.

December 28.—Considerable fever. General condition as before. Chills each day. Pulse 120.

January 3, 1876.—Chills daily. Fever at irregular hours. Night-sweats, for which atropia was ordered. Appetite poor. The wound has discharged one or two ounces of fetid pus

to-day, by the opening in the mastoid. The rest of the wound is healthy. Pus discharged from among the muscles of the neck, below the mastoid process.

January 12.—Gradually he sank, exhausted, and died to-day. His mental condition was excellent up to within an hour of his death. Eye-ground as before. No paralysis; no squint; no priapism.

January 13.—*Post-mortem*, twenty-two hours after death. Rigor mortis well marked. Great emaciation. The head only could be examined. The calvarium being removed, the dura mater was not found inflamed over the hemispheres. The cerebellum, at a point corresponding to an opening from the left mastoid, described hereafter, was disintegrated over a surface three-quarters of an inch in diameter, and its borders firmly adherent to the dura mater and the bone. The softening extended about a quarter of an inch into the cerebellar substance, and was pretty sharply defined. A similar point of softening existed on the upper and posterior surface of the cerebellum, beginning at the torcular Herophili, and extending one inch to the left, corresponding to the inferior curved surface of the left lateral sinus. This extended about half an inch into the brain-substance. Save these two points, the brain was absolutely normal. The dura mater at the point where I had trephined was adherent to the scalp, and was not altered in any way. The cerebral arachnoid, at the same spot, showed a barely visible white color over a spot about one-third of an inch in diameter. The cerebral substance was not inflamed. The entire left lateral sinus was plugged up by a suppurating gangrenous thrombus, which extended up to the torcular Herophili, but not to the right of it. The left petrosal sinus was also filled by a thrombus, which was not adherent; was discolored, but not softened, and only partly filled the sinus. The left inferior petrosal sinus and the jugular vein were not plugged up. The right sinuses were all free. The opening made in the mastoid extended into the cells, and on the inner surface of the groove for the lateral sinus was found a corresponding opening, extending directly into the lateral sinus. Two openings existed in the cerebellar surfaces of the sinus in direct contact with the disintegrated brain-substance, so that a probe could have been pushed from the exterior directly through the mastoid and the sinus into the cerebellum itself.

Below the mastoid, and in the muscles and connective tissue of the neck, was a suppurating sinus. Unfortunately, the examination could not be extended to the heart and lungs. Owing to the excessive cold, I forgot to remove the posterior halves of the eyeballs to examine the discs. The optic nerves were not œdematous, nor inflamed, so far as removed with the brain.

Tympanic cavity.—The tegmen was opened;

pus found in the tympanum; ossicles were present and *in situ*; manubrium eroded; membrana tympani gone; tensor tympani normal; the entire chain drawn inwards, in consequence of the destruction of the membrana tympani.

Dr. SHAFFNER said disease of the mastoid cells was not an unfrequent occurrence in children, especially as a sequel to scarlet fever and measles, and that it usually terminated in recovery, even when very severe, and producing considerable destruction of bone, which is shown by the deep scars carried through life. He thought it strange that disease of structures in such close proximity to the brain does not more frequently develop inflammation of the brain during childhood, while in the adult the same condition produces such serious disease so often.

Dr. BURNETT said he remembered that while attending Professor Gruber's clinic in Vienna, the fact of children being less liable to brain disease than adults, from disease of the mastoid cells, was alluded to by the professor. The reason given for this is the thinness of the outer mastoid wall in children. When inflammation occurs in the rudimentary mastoid portion of the temporal bone of a child, there is, of course, less resistance outwards towards this thin wall than inwards towards the cerebrum. Very often, when the bone is cribriform, nothing but the integument covers the abscess; and hence the great freedom of young children from fatal mastoid disease.

Foreign body in the tympanum. Presented by Dr. H. S. SCHELL.

An Irishman, 55 years of age, applied at the Eye and Ear Clinic of St. Mary's Hospital for relief, on the 23d of June, 1874. He stated that while lying on the settee, at home, three days before, with his eyes closed, his wife had poured melted lead in his ear. The sudden and intense pain caused him to spring up and shake his head violently, and in this way, he said, the lead ran out of his ear again and splashed on the floor. In confirmation of his story he produced a scrap of paper containing some fragments of lead, which had evidently solidified after falling on a flat surface.

Examination of the right ear showed that the skin of the concha and external auditory meatus was deeply burned. From the depths of the meatus came a copious, flocculent discharge. When this was washed away there was found a barely perceptible rim of the membrana tympani remaining, and beyond it the space was filled with a dark-colored substance of metallic lustre. This substance extended outwards, by two projections, along the anterior and posterior walls of the meatus. A portion of the handle of the malleus could be seen outside of the mass, showing perfectly white against the dark background on which it rested.

The facial nerve on the right side was completely paralyzed, and the patient said he had noticed the distortion of the mouth in two or three minutes after he first felt the pain. The sense of taste was lost in the right side of the tongue, and there was some dryness of the same side of the mouth. He complained of constant vertigo. He had been previously somewhat hard of hearing, but this ear, which had been his "good one," was now quite deaf. The tuning-fork on the vertex or teeth was heard in the left ear only. On the left side, in which he had been very deaf for years, the membrana tympani was entire, sunken, and opaque. The loud voice could be heard close to the auricle. There was no perceptible constitutional disturbance.

From the manner in which the lead lay in the right ear, it looked as if it would be very easy to take hold of one of the projections previously mentioned and pull the whole mass out. Although I used a very strong pair of dressing-forceps, however, and all the force I could apply, the only effect was to tear off fragments and leave the main body of the lead immovably fixed in its position. Syringing was utterly useless.

Seven days later the burned soft parts had sloughed away and left the bony canal of the meatus exposed. The foreign body was now slightly movable in its bed, but could not be extracted. After this I ceased all efforts to remove it, and merely directed that the canal should be kept clean by syringing. On the 14th of July I noticed granulations springing up around the processus brevis of the malleus. On the 21st the manubrium was hidden by the granulations which projected from above. A month later I found the inner end of the meatus crowded with granulations, behind which the lead had disappeared. I removed most of them with the looped forceps, and cauterized their bases with chloro-acetic acid, so as to give free exit to the discharge.

On the 7th of September I found the patient feeble, with a weak pulse, and complaining bitterly of the giddiness. He gradually improved during the next three months under a course of tonics. I did not see him again for two months after this, until February 23, 1875, when he presented himself again at the clinic. The opening of the meatus was now surrounded by cicatricial tissue and contracted to a line in diameter. A point of the lead was visible just inside of the opening. I made two free incisions through the contracted tissues, and then succeeded in extracting the lead in one piece. It weighed $18\frac{1}{2}$ grains. The handle of the malleus is partially imbedded in its outer side. The inner side is a tolerably accurate cast of the inner wall of the tympanum. A projection, about two lines in length, from the anterior side, represents the upper part of the Eustachian tube. Superiorly a small process projects towards the tegmen tympani.

Two months later I found the ear dry. A thin membrane of pearly lustre had replaced the membrana tympani. He could hear a loud voice, close to the ear, but could not distinguish words. Tuning-fork on the teeth not heard on the right side. There was no response of the facial muscles to either the induced or constant current. No improvement in taste, nor in the condition of the mouth as to dryness.

I saw the patient again a month ago. His condition remains the same. It is evident in this case that the heat of the lead must have destroyed the chorda tympani, and disorganized the facial nerve through the thin walls of the Fallopiian canal.

Rau refers to a similar case, reported in the *Medicisch-Chirurgische Zeitung*, No. 39, 1852.

GLEANINGS FROM EXCHANGES.

DILATATION OF THE FEMALE URETHRA.—Mr. Clay, of Queen's Hospital, Birmingham, reports (*The Lancet*, June 8, 1878) the case of a woman, *æt.* 22, who had suffered from incontinence of urine since her birth. At times it constantly dribbled away from her, at other times she could retain her water for several hours. When the bladder felt full she had little or no power to empty it; she sometimes experienced great pain in passing her water. She was well nourished and healthy, and had never had any illness except rheumatic fever. On April 20, Mr. Clay dilated the urethra with Weiss's female urethral dilator, so that the finger could be passed into the bladder. On the 25th the patient had a little more control over her bladder, but was still unable to retain her water for any length of time. On May 6 she was discharged, much relieved, and on May 20 she came to the hospital and stated that she could retain her water all day and had perfect control of the bladder.

Mr. Barton, of the Adelaide Hospital, Dublin, reports (*The British Medical Journal*, June 8, 1878) the case of a woman, *æt.* 29, by occupation a nurse, who was admitted into the hospital on February 16, on the suspicion of having a stone in her bladder. She stated that her health had been failing for several months, and that for the last month she had experienced an uncomfortable sensation in the region of the bladder, with a frequent desire to micturate. The symptoms increased, appetite was lost, and fatigue easily induced. At times she had shooting pains across the lower part of the abdomen and down the inner part of the thighs. About a fortnight before her admission to hospital, after some exertion she felt faint, had a severe pain in the hypogastric region, and, after great straining in micturition, passed a considerable quantity of blood, and had to take to bed.

The pain, which was excruciating, was unrelieved by passing urine, which she did every half-hour. The urine was acid in reaction, and contained blood and pus. A mass of enlarged glands was noticed on the left side of the neck. Mr. Barton sounded the bladder for stone, but failed to discover one. Bland injections were made into the bladder, and tonics and anodynes administered, but without effect. Mr. Barton therefore determined to dilate the urethra, which he did by means of Weiss's dilator, by two operations, with an interval of fourteen days; after which the urethra was so expanded as to admit the index finger freely into the bladder. The mucous membrane of this was quite rugous; there was but slight hemorrhage, and the urine trickled away for about twelve hours. She steadily improved after this, and left the hospital on April 6, with complete control over the bladder; all pain was gone, and her appetite was good; the urine was healthy and the glands in the neck much reduced in size. Upon each occasion that the dilator was used the patient was placed under the influence of chloroform. The dilatation occupied nearly a quarter of an hour. It was carried as far on the first occasion as to admit the tip of the index finger into the urethra, but not into the bladder. This was followed by such marked relief that it was hoped no more would be required; but, the symptoms persisting, although in a mitigated degree, the second dilatation was performed, when the index finger was freely passed into the bladder. Incontinence lasted only one day; complete cure followed.

Dr. P. F. Harvey reports (*The Medical Record*, May 18, 1878) the case of a woman, æt. 31, who had been under treatment for some months for right latero-flexion, associated with chronic endometritis, consequent upon subinvolution following abortion in the third month. Three months before coming under observation, acute cystitis suddenly developed, characterized by alarming prostration, intense burning pain in micturition, and the passage of bloody and muco-purulent urine. The acute symptoms having subsided under treatment, the usual means of relief were tried in vain to control the chronic irritability that remained. By chemical and microscopical examination, numerous pus and epithelial cells and some albumen were found at various times in the urine. Otherwise it was normal. Topical and constitutional measures conferred no relief whatever. Nausea and vomiting were frequent and distressing symptoms. Constipation of the most obstinate character had existed for months. The uterine trouble had been undergoing satisfactory improvement previous to the development of the cystitis, but since that occurrence the failure of the patient's strength, and the intense pain caused by the introduction of the speculum, interdicted the application of the reme-

dies adapted to the relief of the former. Her worst symptoms seem to have proceeded from the vesical irritability. Every hour during the night a spirt of urine, amounting to a teaspoonful, would constitute her most serious trouble. Again, there would be retention with great tenesmus and suffering until the pent-up urine was voided through the catheter. The passage of a soft rubber catheter always gave severe pain.

Fully convinced of the inutility of persisting in the ordinary modes of treatment, Dr. Harvey determined upon performing rapid dilatation of the urethra as furnishing the only hope of relief. Accordingly, on February 28, having evacuated the bladder and brought the patient under the influence of ether, he cautiously introduced into the urethra the blades of a narrow pair of sequestrum forceps, and gently dilated the passage until it would admit his little finger. This dilatation was increased to an extent which admitted of the introduction with ease of his thumb or forefinger. Urine ran freely from the bladder during the dilatation, notwithstanding the previous catheterization. The mucous membrane of the bladder communicated to the touch a soft, velvety feel, and seemed perfectly free from disease. The cavity was normal in size; hemorrhage was slight.

After some days of obstinate vomiting, intense ardor urinæ, febrile excitement, etc., retention became partially established, but there was still great tenesmus and suffering as before. On March 26 dilatation was again practised, both indices being introduced, and the urethra and vesical neck stretched to their utmost capacity. Slight pain was experienced subsequently, immediate relief was obtained from the more urgent symptoms, the patient progressed steadily towards recovery, and on April 14 reported herself as entirely relieved.

AN IMPROVEMENT IN THE JAWS OF THE LITHOTRITE (*The Medical Record*, May 18, 1878).—Dr. E. C. Keyes reports an improvement in the jaws of the lithotrite, and summarizes as follows his views on the subject, adding that although the statements are expressions of personal opinion they are also deductions from clinical experience.

1. A typical lithotrite requires no teeth. Its function is to produce fragments, not dust, if it be proposed to wash out the detritus through a tube.

2. Such an instrument needs jaws composed of three bars, one of which must pass through and just beyond the other two,—the latter precaution to insure against clogging.

3. If the male blade be smooth at its edges, and so narrow and short as to play in the female blade at the distance of a millimetre or more from the latter on both sides and above, it becomes practically impossible, with the exercise of reasonable care, to catch the bladder, and the terrors of the old-fashioned

fenestrated instrument, where the male fits tightly into the female blade, cease to exist.

4. The width of a blade does not add to its strength, which lies in the antero-posterior diameter of the heel. In the width of the male blade lies the danger of a fenestrated instrument.

TREATMENT OF CASES OF INTRA-THORACIC PRESSURE (*The Lancet*, June 8, 1878).—Dr. J. Burney Yeo recommends the following general treatment for those troubles arising from intra-thoracic pressure due to enlarged bronchial glands, to malignant or non-malignant growths, to aneurism, or to other causes.

In the first place, it is impossible to overrate the value of simple rest in bed in some of these cases. This is of itself sufficient in many instances to calm the more distressing symptoms; and when it is the large venous trunks that chiefly suffer compression, we place the organs of circulation under the most favorable circumstances for regaining their balance and for establishing a collateral circulation. In nearly all these cases, with the exception of certain cases of aneurism, where the patients find their symptoms much aggravated by enforced repose, rest in bed is almost immediately followed by an amelioration of the severity of the symptoms. A combination of sedatives and antispasmodics will generally be found of great value in allaying the distressing symptoms of nerve irritation often present in these cases,—the paroxysmal dyspnoea, the cough, the vomiting, and the pain. A mixture of morphine with ether and ammonia is most serviceable, a few doses often having the effect of changing the whole picture of the malady. Unhappily, the change in the majority of cases is only temporary. For the relief of local nerve pains the mixed belladonna and chloroform liniments prove very efficacious. Hypodermic injections of morphine and atropine are most valuable resources, and the inhalation of chloroform is often attended with good effect. In cases where we have any reason to suspect that constitutional syphilis may be a causal agent, we should give large doses of iodide of potassium, with or without mercury, for some time. And one may every now and then have the satisfaction of seeing a rapid and complete disappearance of the distressing symptoms.

In cases of enlargement of the bronchial glands, much may be effected by judicious treatment. Change of air is one of the most potent remedies, from inland to the seaside, or from low level districts to high mountain regions. Removal to the seaside, together with warm or cold sea-baths, is of great value. Cod-liver oil, the syrup of the iodide of iron, the local application of the tincture of iodine between the scapulæ and over the superior sternal and supra-clavicular regions, are all means of well-known efficacy. Small doses of arsenic, especially in the form of the Eau de Bourboule, are very highly spoken of by

French writers. This excellent water, which is not so well known as it ought to be, is given in doses of a wineglassful three times a day, with an equal quantity of milk.

RELATIVE CALIBRE OF THE TRACHEA AND BRONCHI (*The British Medical Journal*, June 8, 1878).—From his researches on the relative calibre of the trachea and bronchi, M. Marc Sée draws the following conclusions. In the normal state, the united calibres of the two bronchi are equal to the calibre of the trachea. It may be added, as the result of the measurement of a limited number of cases, that the united calibres of the bronchial divisions are equal to the calibre of the bronchus from which they spring. The respiratory tubes, therefore, are a cylinder, and not a cone. In pathological states, the equilibrium between the capacity of the trachea and that of the bronchi may be destroyed either in favor of the bronchi, as in chronic tubercularization, or of the trachea, as in emphysema.

WORMS IN THE NARES (*N. Y. Med. Jour.*, July, 1878).—Under the title of "A Curiosity in Practical Medicine," the following case is contributed by Urbanek. A soldier came under treatment with marked swelling, inflammation, and occlusion of the nasal passages. From both nares round white worms, 3 cm. long and 0.5 broad, were removed, and upon a later inspection of the parts quantities of smaller worms were discovered, which had bored into the walls of the septum and mucous membrane of the turbinated bones, at points through and through. On the soft palate was a whitish slough, which separated in a day or two, leaving a perforation with resulting disturbance of speech. Injections of carbolic acid quickly killed such of the worms as were not removed by the forceps. The patient, a few days earlier, while suffering from an acute rhinitis, had slept on a hot summer's day in a tent, and the writer believes that at that time some insect had deposited its eggs within the nasal cavities.

MISCELLANY.

THE USES OF ANATOMY.—Mr. Hensman draws attention, in the *London Lancet* for March 16, to the uses to which a knowledge of anatomy may be applied. Stuart's clavicular wheel for carriages claims a great form of strength coupled with lightness. It is strictly modelled after the human clavicle; that is to say, each spoke is curved precisely as the clavicle itself; and, true to his pattern, Mr. Stuart has flattened the outer curve, thus rendering the weaker one strong, to resist where the strain is heaviest. He has followed the shape of the inner curve, even in copying the ridges that bound the subclavicular groove, and thus materially adds to the strength of the spoke.—*Louisville Medical News*.

BENZOATED ALCOHOL.—Benzoated alcohol is much recommended by Dr. Templeton as a basis of valuable and pleasant antiseptic solution. It is recommended to dissolve half an ounce of the pure benzoic acid, prepared from the resin, in a pint of spirits of wine. Mixed with water, it makes a pleasant, effective, and innocuous lotion-gargle or spray.—*British Medical Journal*.

TREATMENT OF SHINGLES.—In herpes zoster, Dr. Amedée Mercier speaks highly of perchloride of iron locally. He uses thirty grammes of the perchloride of the Codex and ten grammes of alcohol, and applies it twice daily.

DR. HENDERSON has given (*London Lancet*, June 29) a careful and elaborate report of a successful case in which twenty ounces of pus were evacuated from an abscess of the liver by means of a tenotome with antiseptic precautions.

NOTES AND QUERIES.

July 24, 1878.

EDITOR PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—The following report of a case of *fatal tobacco-poisoning* may be of interest to toxicologists and the profession in general, as it relates to the use of an article by no means rare. In all the works on toxicology the writer has had access to, he has been unable to find a case analogous; and though mild forms of tobacco-poisoning are unfortunately quite common, and some fatal instances are on record, the one under consideration he believes to be peculiar.

Michael Trainor, an Irishman by birth, aged about thirty-five years, and employed as a "deck-hand" on a steamboat, contracted fever and ague while on a trip down the Ohio and Mississippi Rivers in the spring of 1876. When he returned to Pittsburg, in the latter part of April of that year, he had not fully recovered from the malaria, but was not ill enough to be confined to the house.

Instead of consulting a physician, he accepted a prescription from a friend, who warranted its efficacy. This sovereign cure consisted of one-third pound of refuse tobacco (stems and leaves), and two or three heads of garlic, steeped in a pint of brandy. The dose was one tablespoonful three times a day, and the patient carefully followed the directions for three days, when his condition was so alarming that a physician was called to see him.

The doctor found him suffering severely from a pain in the stomach; pulse very feeble and rapid, almost imperceptible; respiration labored; extreme nausea, with vomiting and persistent hiccough; low, muttering delirium. He was covered by a cold, clammy perspiration, and greatly exhausted.

Stimulants (whisky and carbonate of ammonia) were prescribed, and warm applications to the stomach and abdomen recommended. His condition was much the same the next day, and the day following the pain in the stomach became very severe. The nausea and vomiting still continuing, the attendant had recourse to a hypodermic syringe for the administration of morphia. The prick of the needle on the abdomen induced a convulsion, during which the man expired.

In all the reported cases of fatal tobacco-poisoning I have seen, death has resulted from a single large dose of the manufactured article. In the above, four or five ounces of the tincture had been ingested in divided doses, extending over a period of three days. CHARLES STONER SHAW.

292 PENN AVENUE, PITTSBURG, PA.

BALTIMORE, July 25, 1878.

PROF. H. C. WOOD, M.D., PHILADELPHIA:

MY DEAR DOCTOR,—I am glad you have noticed the Buffalo Lithia Springs, as they deserve far more consideration and attention from the profession and the public than they have hitherto received. My position in their midst, during last summer, as resident physician, enabled me to become quite well acquainted with their truly valuable medicinal properties in the treatment of many of the ills to which flesh is heir. And I do not hesitate to say, as the result of my personal observation, that in certain subacute and chronic conditions of the uro-genital organs in both sexes, Spring No. 2 stands

unrivalled for its remedial virtues. In chronic affections of the female reproductive organs, the water of this spring approaches a specific.

In various chronic diseases I have witnessed most gratifying and satisfactory results from the use of this alone, or in conjunction with Springs Nos. 1 and 3, the enumeration of which would far exceed the limits of a note of this sort. The situation of the Springs is pleasant, and the tone of the place and surrounding country excellent. Add to the foregoing comfortable quarters, good fare, and the attentions and kindness of one of the most genial and pleasant of hosts, such as will be found in Colonel Thomas F. Goode, and the invalid could hardly find a more desirable resort for a few months than Buffalo Lithia Springs.

Very respectfully and truly yours,

HARVEY L. BYRD, M.D.

EDITOR PHILADELPHIA MEDICAL TIMES:

A prominent druggist of this city has recently distributed a circular among physicians, in which dialyzed iron is stigmatized as a worthless preparation. As my own experience has led me to a different result, I was much tempted to read in the current number of the *London Practitioner* an account of some experiments of Professor Gowers, by which he proves conclusively the efficacy of the preparation mentioned. I have noticed that large doses (from one-half to one drachm three times daily) produce a more rapid improvement than small ones; and I am in the habit of advising anemic patients to continue such doses until at least a pint of the preparation shall have been taken, that the improvement may become permanent.

Respectfully, F. L. HAYNES.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 14 TO JULY 27, 1878.

SIMONS, J., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for twenty days. S. O. 157, A. G. O., July 20, 1878.

BAILY, J. C., MAJOR AND SURGEON.—When relieved, to return to his station, Presidio of San Francisco, Cal. S. O. 97, Division of the Pacific and Department of California, July 1, 1878.

JANEWAY, J. H., MAJOR AND SURGEON.—Granted leave of absence for three months. S. O. 160, A. G. O., July 24, 1878.

HUBBARD, V. B., CAPTAIN AND ASSISTANT-SURGEON.—To report to Major Sanford, First Cavalry, for field duty with his command, relieving Surgeon J. C. Baily. S. O. 97, c. s., Division of the Pacific and Department of California.

CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.—To report to Commanding General Department of the East for assignment. S. O. 157, c. s., A. G. O. Assigned to duty as Post-Surgeon at Fort Independence, Mass. S. O. 128, Department of the East, July 24, 1878.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—To report to Commanding General Department of the East for assignment to duty. S. O. 160, c. s., A. G. O.

WILSON, WM. J., CAPTAIN AND ASSISTANT-SURGEON.—To report to Commanding General Department of the East for assignment to duty. S. O. 160, c. s., A. G. O.

AINSWORTH, F. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty with battalion Eighth Infantry, ordered to duty in the field. S. O. 97, Division of the Pacific and Department of California, July 1, 1878.

BIART, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to Commanding General Department of the Missouri for assignment to duty. S. O. 160, c. s., A. G. O.

GRAY, WM. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Willet's Point, N. Y. H., and to report to Commanding General Department of the Columbia for assignment to duty. S. O. 160, c. s., A. G. O.

BRECHENIN, L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to Commanding General Department of Dakota for assignment to duty. S. O. 160, c. s., A. G. O.

LA GARDE, L. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to Commanding General Department of the East for assignment to duty. S. O. 160, c. s., A. G. O.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 17, 1878.

ORIGINAL LECTURES.

RETINAL IRRITATION.

Delivered before the Spring Class of 1878, in Ophthalmoscopy, at the University of Pennsylvania,

BY S. D. RISLEY, M.D.,

Lecturer on Ophthalmoscopy at the University, Chief of Dispensary for Eye Diseases at the University Hospital, Ophthalmic and Aural Surgeon to the Episcopal Hospital at Philadelphia.

GENTLEMEN,—Before introducing to you the more serious forms of retinal and nerve disease, I invite your attention to-day to the subject of retinal irritation.

It is a condition which you will meet with much more frequently than you will see well-pronounced retinitis, provided you do not allow it to pass unheeded, as I did myself for many years. It will by no means be surprising if you do not recognize the first case of retinal irritation that confronts you, for it is not a condition which holds up before your gaze gross pathological changes, such as I shall show you hereafter as the result of neuritis, neuro-retinitis, morbus Brightii, pigmentary retinitis, etc., etc. Nevertheless, the abnormal appearance of the retina is quite enough to declare the presence of this condition, and you should be able to recognize it. All the more is it important to detect it, since it is an extremely frequent source of the discomfort from which your eye-patients will complain, and may be referred to the wrong source. The red and generally irritable appearance of the external tunics may lead you to treat these cases for their conjunctival hyperæmia, if you are not well on your guard about this matter of retinal irritation. Or if associated with some obvious refraction error, you may ascribe all the annoyance to this cause alone, and still overlook the retinal trouble.

The subjective symptoms of retinal irritation are by no means pathognomonic, since a pronounced retinitis or choroiditis may give rise to no greater distress, or may express themselves by a like chain of symptoms.

Patients with retinal irritation will come to you complaining that their eyes are weak, and are prone to ascribe the weakness to some undue strain to which they

have been subjected. Ladies frequently ascribe it to protracted use at fancy needle-work, or to sewing on black cloth at night; or affirm it to have followed some of the continued fevers, or, it may be, some more acute malady, since which they have not been able to use the eyes comfortably, particularly at night. They complain that on attempting to sew or read by artificial light the eyes soon grow weary, and a sense of heat and fullness, it may be without actual pain, comes on. If the effort at work is persisted in, the eyes water, the lids grate roughly over the ball, or itch and smart, or burn, until perforce the attempt at work is relinquished. These uncomfortable sensations often last far into the night, disturbing the sleep. Relief, however, is usually sought in bathing them in cold water, a remedy which very naturally suggests itself as the surest way to relieve the burning heat in the eyes. These symptoms at first follow use of the eyes by artificial light only, but very soon protracted use during the day brings on a less aggravated chain of symptoms, and work at night is no longer attempted except under the most compulsory circumstances. The glare of the gas-lights is avoided as unpleasant, rather than painful. The sufferer consequently stays away from church at night and from places of public amusement, or makes use of a tinted or smoked glass to modify the light.

The vision, however, remains unimpaired; indeed, the patient may be able to decipher letters at longer distances than can his friends, or than he himself could do formerly. The external tunics are injected. Careful inspection shows the tarsal conjunctiva hyperæmic, and the edges of the lids are at times red, scaly, and slightly thickened. The episcleral vessels are dilated, and after reading a few moments there is a slight pericorneal zone of injection; and when facing the window or a bright light, the pupil contracts strongly. The same takes place when light is thrown upon the retina from the ophthalmoscopic mirror, making careful inspection of the fundus oculi extremely difficult,—often, indeed, quite unsatisfactory until the pupil is dilated by atropia. Very frequently the symptoms of irritation are not confined to the eye, but periorbital neuralgia which radiates to the temples, vertex, and occiput follows any protracted work at a near

point. Pain in the back of the head and neck is indeed quite characteristic of this condition of irritability, especially when it is present with some error of refraction or muscular anomaly producing eye-strain. So frequently is this occipital and neck trouble present that I rarely omit inquiring for it. It is described often as a sense of soreness or fatigue rather than acute pain: *e.g.*, a gentleman said to me that he felt as though he had been sleeping with the back of his neck and head on a "billet of wood for a pillow." The pain not unfrequently radiates outward to the shoulders.

It often happens that these frontal and occipital pains are constant, and only aggravated by use of the eyes.

Ophthalmoscopic inspection of the eye-ground reveals no striking appearances, but a careful study will show the nerve-surface unduly capillary, the central veins dark, full, and relatively too large. Frequently the vessels will be found to have lost their smoothness of outline, appearing roughened or granular. The increased capillarity of the optic nerve gives to its surface, as seen with the ophthalmoscope, a brickdust-red tint, instead of the pinkish white of the normal nerve, so that there is a less striking difference in tint between the red choroid and the optic nerve surface.

Moreover, the nerve has lost its transparency. In a perfectly healthy eye you are conscious of looking through the nearly transparent nerve-fibres back into the nerve, to and into the lamina cribrosa. You will recall here what I said to you when speaking of the central physiological excavation seen in many healthy eyes, and the explanation I gave of the appearances shown so well in the colored lantern slide representing this condition.

Now, in these cases of well-marked retinal irritation, if of long standing, you will frequently find a want of this transparency. The picture of a normal nerve being in your mind, this at once strikes an attentive observer as different, and yet a difference difficult to describe. You look into the face of your familiar friend, and at once conclude that he is not enjoying perfectly vigorous health. You would find it difficult to convey to a third person the appearances upon which you based your conclusion. Yet they were quite sufficient basis for your own judgment in the matter. In like manner the optic nerve appears to

you "out of sorts," and you are led to still more careful examination. Accurate focussing will not bring out clearly defined the border of the nerve, and the reason will be found to exist in delicate striæ in the retina, radiating in all directions, and due probably to a slight want of transparency in the fibre layer of the retina, just at and beyond the point of emergence of the nerve fibre for distribution as the retina. As they pass over the sharply-defined scleral ring, the very slight milkiness of the retina obscures the otherwise sharp outline for the nerve which it furnishes. In pronounced cases of retinitis and neuro-retinitis, as we shall see hereafter, the nerve-border is entirely hidden from view by the opaque retina. These delicate striæ may often be traced a full disk's width beyond the border of the optic nerve disk. This condition may last for long periods of time without any more marked change than that I have described.

You will often be worried in these cases of retinal irritation lest you have to deal with a case, possibly, of descending neuritis or of neuro-retinitis at an incipient stage; and indeed I must confess to you that it is not always easy, nay, nor always possible, to say with positive candor and certainty that you have not the graver malady to deal with; but usually a careful study of all the features of the case, both subjective and objective, will enable you to arrive at the true nature of the disease. The extreme delicacy of the problem, however, will come home to you, I think, when I call to your mind once more the frequency with which fronto-occipital headache is associated with mere retinal irritation. I have not yet spoken of the distressing nervous symptoms which I have repeatedly encountered in these cases, and which appeared to have had their *fons et origo* in the eye-strain and retinal irritation. These will be more fully alluded to later. To approach, however, one of these cases with a possible mental bias towards cerebral disease, it would not be difficult to arrive at a very grave opinion, which would not, of course, be justified by the subsequent developments of the disease,—certainly not in all cases of retinal irritation. I make this guarded qualification here, for, as we shall see presently when I come to speak of the causes of retinal irritation, it is probable that many times the retinal trouble is only common to the nervous

system at large, or may be the result of approaching inflammatory disease.

In retinal irritation, however, of purely local origin, or at least simply of local import, there will be quite enough in the general symptoms of the case to exclude serious cerebral or general nerve disease. In the local expression of the trouble there are many points which go to differentiate it from the more serious malady.

The causes of retinal irritation are various, and in not a few cases very obscure. I have repeatedly met with it in children from eight to twelve years of age; more rarely in advanced life. You will find it in the otherwise robust and healthy, but more frequently in the overworked and physically weak.

I at one time brought on a condition of retinal irritation in my own eyes, which troubled me many weeks, by reading for several hours in an open carriage, on a bright, clear day, during a tedious journey over a sandy road. I was consulted but a few weeks since by a carpenter, who had been working in the sun shingling a roof. I found him with retinal irritation, which soon subsided under rest and the use of a smoked glass to shield the retina from bright light. Had he persisted in his work, the condition of irritation and hyperæmia would doubtless have passed over into *retinitis*.

I was consulted by a gentleman from a distant city, who had been compelled to give up his position as a clerk, because of the eye-ache and pain in his head which were sure to follow a few hours spent over his books. I found his retina in the condition I have described as characteristic of irritation. He had a low degree of simple hypermetropic astigmatism ($=\frac{1}{48}$), with some weakness of the internal rectus muscles. Thinking the condition of the retina might depend upon this cause, I very carefully corrected these defects by a pair of glasses selected after continued use of atropia. His eyes improved under the use of the atropia, and at the end of the treatment were feeling quite well. The ophthalmoscope revealed a great improvement in the choroid and retina. The central vessels of the retina were less engorged than at first, the optic nerve had lost its brickdust color, and the slight haze which had blurred the borders of the nerve-disk had disappeared.

He went back to his home armed with

his correcting glass, and stopped the atropia. He returned in a month with his eyes far back towards the condition in which I had at first found them. The correction of his refraction error and the muscular anomaly had been of some aid to him, for he could work for a short time with his glasses, but not at all without them. Other nervous symptoms led me to inquire further for some cause for the extreme irritability of his retina. He acknowledged the most inordinate sexual indulgence. He was placed upon his guard in this matter, and in a month returned to his clerical duties, and has since been able to use his eyes with comfort during the day, and the undue sensitiveness to artificial light is rapidly diminishing. This is only one instance selected from very many others where I have been led to believe that the retinal condition stood in very positive relation with derangement and excesses in the sexual functions. In these cases there have invariably been other nervous symptoms present, which doubtless stamp the retinal irritability as only one with the general condition of the nervous system. The eyes suffered most, because they were in more active use under unfavorable conditions,—*i.e.*, the refraction error,—the employment of the individual having demanded prolonged use at a near point.

By far the most frequent cause for retinal irritation is some defect in the refraction of the eye. It is the rarest circumstance to find a case of persistent, well-marked retino-choroidal irritation in eyes free from error in this respect. The amount of work even under unfavorable circumstances, as of bad light, etc., which a perfect eye will bear, has long been a matter of surprise to me, but not more so than the certainty with which defective eyes break down under like usage. Given an astigmatic eye and bad light or print, etc., and we have trouble, while without such defect no trouble would have ensued. No class of persons, perhaps, use their eyes under more unfavorable surroundings, or for a greater number of hours in the twenty-four, than medical students. A large number every year consult us, at the eye dispensary, regarding their weak eyes, and are often found to have marked retino-choroidal irritation, but they invariably have some anomaly of refraction or weakness of the converging muscles. Doubtless there have been in many cases other causes operating in its production, but

nevertheless the eyes would not have been the focus of irritation had not the refraction error existed before.

It is not my province here to discuss fully the method of its production by these refraction anomalies. Suffice it to say that the undue strain which is forced upon the ciliary muscle in maintaining distinct vision in astigmatism and hypermetropia, and the discord thus brought about between the accommodation and the convergence, both being under the same innervation, are quite sufficient to account for the trouble which follows protracted use of the eyes at near work.

In these cases the ciliary muscle is often found in a condition of nearly tonic contraction, or even cramp, which serves in hypermetropia to mask entirely the existing error, and in myopia to exaggerate by so much its degree. It leads myopes to select too strong glasses, and those suffering from hypermetropia to reject convex glasses entirely. These cases of refraction error, then, are by far the most frequent cause of retinal irritation. Do not forget that the cramped condition of the ciliary muscle gives rise to pain which will quite as frequently be referred to some of the other terminations of the third nerve as to the real seat of disturbance. As sources of irritation elsewhere in the economy may give rise to serious nervous symptoms, *e.g.*, the convulsions and diarrhoea of children during the eruption of the teeth, or a spurious strabismus from guests in the alimentary canal, etc., so here we would, *a priori*, anticipate the occurrence of other symptoms than the eye distress alone. Nothing is more frequent, gentlemen, than the occurrence of nausea and vomiting, associated with violent headache, due to the strain on the muscle of accommodation. Indeed, many of the cases suffering from periodical "*sick headache*" belong to this class, and never recover from their liability to these attacks until the cramp in the ciliary muscle, and the irritability of the retina and choroid, are relieved by the use of atropia and the subsequent correction by glasses of the refraction error.

Do not be deceived in these cases by the statement of your patient that "the eyes are always worse when the stomach is wrong." It would more frequently be correct to count from the other end of the chain, for you will find that these attacks follow extra use of the eyes or exposure to

bright light, etc., etc. It is a good rule, in all cases of headache in which you are doubtful of its origin, to examine carefully the eye-ground, and at least exclude or prove the presence of refraction anomalies with hyperæmia of the retina, papilla, and choroid. It may happen, however, that the refraction error is a mere coincident, having nothing to do with the nerve trouble.

I recall now the case of a professional gentleman, who had for many weeks complained of pain in his head, from which he could get no permanent relief. Since it was aggravated by using his eyes in reading, he conceived the notion that it might be due to his eyes, and came to inquire of the matter. He had considerable degree of astigmatism, and marked fulness of the retinal veins, with slight haziness of the retina, and striation of the retinal fibres immediately surrounding the nerve. The vessels were bordered by a white line, and there were very delicate, glistening striæ, scattered over the eye-ground, running in all directions, so delicate as to be seen only with most careful focussing. The possibly dangerous portent of these appearances was at the time pointed out. Putting the ciliary muscle at rest, and smoked glasses to relieve the glare of the light, gave no relief. In ten days he had well-developed meningitis, in spite of treatment directed with this possible outcome in view, and the ophthalmoscope revealed pronounced neuro-retinitis.

The ophthalmoscope will be quite as useful in placing you upon your guard for approaching serious nerve disease as in verifying cerebral disease by the grosser changes in the papilla, *e.g.*, "choked disc." In order to study these finer changes in the retina and nerve, you must, of course, have in the first place thorough command of the ophthalmoscope, and be able to study the magnified upright image, and, secondly, an ever-present picture in your mind of the normal eye-ground.

In the treatment of these cases you will take special care to look after the general health of your patient. If the retinal symptoms are but a part of some malady of the nervous system, his treatment must be conducted accordingly. Where retinal irritation is present with refraction errors, however low they may be in degree, correct the error by a carefully-selected glass, the measurement being made while the eye

is thoroughly under the influence of atropia. In the treatment of irritable retinae, whatever may be the cause, *rest*, as perfect as possible, is a very important element. The best—I believe the only—way to secure this is by paralysis of the accommodation by belladonna. Your patient will then be unable to read, and rest is in a measure enforced. More than this, however, atropia has the further advantage of being a very positive local sedative. Whatever may be its direct physiological action over the blood-vessels, one thing is certain, that under its action the hyperæmia of the retina and choroid very rapidly subsides.

The ophthalmoscope has repeatedly revealed to me very marked diminution in the size of the retinal veins, and the amount of capillarity of the optic nerve, in two or three days. The patient's sensations, also, are in accord with the improved appearance of the eye-ground. The headache and pain or fulness in the eye, and the pericorneal zone of injection, disappear. Although he is annoyed by the absence of his accommodation produced by the atropia, he nevertheless feels better. The flood of light admitted through the widely-dilated pupils is unpleasant, often painful, and should be excluded by a pair of smoked glasses. When the eyes have become comfortable and the hyperæmia has sufficiently subsided, correct any error of refraction which may be present, and then stop the atropia.

Alteratives have often seemed a useful adjunct to the local treatment. You will encounter much opposition to the use of atropia, and will be told of persons who have never seen so well since its use; but take these statements *cum grano salis*. The accommodation is recovered in from one to three weeks, even after the use of a solution of the sulphate of atropia gr. iv to fʒi, continued even for three or more months. I have repeatedly verified this statement. In a very large number of cases I have careful record of the range of accommodation and acuity of vision after its use, and in not a single instance have I had cause to regret its institution.

1630 WALNUT STREET.

ACCORDING to the London *Lancet*, John P., aged five years, recently died in Manchester, England, of hydrophobia produced by the bite of a cat.

23*

ORIGINAL COMMUNICATIONS.

HEREDITARY TRANSMISSION OF SYPHILIS.

BY L. K. BALDWIN, M.D.,

Physician to the Gynæcological Hospital.

ONE point which seems settled in the minds of those who have made a close study of the subject of syphilis is, that it may be transmitted to the offspring either through the condition of the ovule of a syphilitic mother, or through the semen of a syphilitic father, or from a combination of diseased states in both. It may also be transmitted through the blood of the mother, when she acquires the disease during gestation and thus infects the developing fœtus. But with such facts well established, we not unfrequently see children born of parents known to have had syphilis in the different stages, from primary to tertiary, show no signs of the disease at birth, and, it may be, not for a very long period after, and in some cases probably never. While the hereditary transmission of syphilis has been accepted as a fact since the sixteenth century, there were those who did not admit it. John Hunter would only admit that the fœtus in utero might become infected with a portion of the same poison which infects and is absorbed by the mother, but not that it was infected in consequence of the maternal disease, as he doubted that constitutional syphilis was infectious. Ricord, while sharing to some extent the views of Hunter, still admitted the transmissibility of the disease, but considered it the exception to the rule.

There may be cases where children are born with syphilis which they appear to have inherited, but have only been infected during the act of delivery, the mother suffering at the time from open syphilitic sores.

Jonathan Hutchinson* affirms that "when a wife is the subject of constitutional syphilis, and her husband healthy, there is a better chance that healthy offspring will eventually be produced than when the reverse is the case, since the father will remain without taint, and the mother's system will gradually eliminate it." The same author also states† that

* Aph. XI., Syph. Dis. Eye and Ear.

† Aph. VIII., Syph. Dis. Eye and Ear.

when both parents are suffering from the disease, the child will be much more likely to be affected, and also that the disease will be likely to be more severe; but that cases have been known where both parents were suffering from the disease and yet produced healthy children. It seems a well-settled fact that the shorter the space of time since the infection, or the outbreak of the general symptoms, the severer the infection of the offspring. This rule will hold good, no doubt, in all cases, unless the affected parents become broken down through the influence of the disease, when children born later will most likely suffer the most. Zeissel mentions cases where syphilitic mothers have brought forth at one birth healthy children and at another syphilitic ones. Campbell cites a case where a syphilitic mother gave birth to twins, one dead and in a state of maceration, while the other appeared quite normal, but a few weeks later showed signs of syphilis, showing that both fetuses were in different degrees affected. Boeck and Frankel both assert that if the father be healthy at the time of procreation, and the mother acquire syphilis during gestation, the child will escape infection unless the mother becomes syphilitic before the seventh month of pregnancy.

Whether syphilis is transmissible to the third generation is still an open question. A series of cases, indeed, recorded by Hutchinson in vol. ii. London Hospital Reports, seem to sustain the fact that such may be the case; but the statements made lead to a strong feeling of doubt.

The following cases, which have fallen under my own observation, will serve to bear out in many particulars the statements of the authors quoted above, especially that of Zeissel in regard to syphilitic mothers bringing forth at one birth healthy children and at another those infected with the disease. The first case is interesting on account of the number of pregnancies and the widely different condition of the children at birth.

Case I.—Mrs. B., a previously healthy woman, was infected with syphilis by her husband in 1865. She states that she had primary sores, followed in a short time by secondary eruptions, sore throat, periosteal inflammations, and the usual symptoms attendant on such cases. Soon after her infection she became pregnant, and was delivered in June, 1866, of a still-born child of seven months' gestation. Became pregnant again in 1868,

and in December of that year gave birth to twins, both of whom she states bore evidence of the infection and died at the age of six weeks. She again in 1870 gave birth to a female child, which lived three months and died of "marasmus," which was, no doubt, induced by the syphilitic poison inherited from the parents. She applied to me in 1872 to be treated for secondary syphilis, being at that time several months advanced in pregnancy. She had sore throat, violent headaches, dirty sallow complexion, while her lower limbs were covered with deep, foul syphilitic ulcers. I placed her upon constitutional treatment for the infection, and a general course of tonics to build up her broken-down system. I soon had the pleasure of seeing a marked improvement in her condition, the ulcers gradually growing smaller, and the other symptoms yielding kindly to treatment.

She went on to the full period of gestation, and I delivered her of a healthy, well-developed male child, without a spot or blemish on his skin, or any other evidence of syphilitic taint. I have attended the family at intervals since the birth of the child alluded to, but have never seen anything in him to give rise to the suspicion that he has in any way inherited the infection. I saw him only yesterday, and he is in every respect a stout, healthy boy. I made an examination of his teeth, but failed to find the notched appearance so much spoken of in children born of syphilitic parents. In 1874, Mrs. B., after having gotten rid of the visible presence of syphilis in her own system, gave birth to a daughter, who is now, and has always been, a remarkably stout, healthy child. I also examined *her* yesterday, and found an entire absence of the characteristic marks of inherited syphilis. She has never been sick, nor has she during her whole life shown the least sign of an inherited taint.

Not disheartened by her former experience, Mrs. B., to celebrate the Centennial, tried it again, and in December of that year brought forth a boy. I was not in attendance, but have had ample opportunity of seeing the child ever since his birth. His mother assures me that he weighed ten pounds at birth, but soon commenced wasting away, and so rapidly did he fail that when three months old he weighed but four and a half pounds. I saw him during the *lean* period of his existence, and he presented the characteristic symptoms of constitutional syphilis in a most marked degree. He had the appearance of a prematurely old person, his skin being of a dirty orange color and much shrivelled. I thought it impossible for him to live any time, and did but little for him; when, to the surprise of all, he began picking up, and is now as stout and robust as any child of his age. His skin, although shrivelled and dried up, was clear of blotches and eruptions. I also examined *him* yesterday, and find him appar-

ently as clear of the signs of infection as the children noted above; but during the most of his life he has been subject to convulsions of an epileptic character, which may be occasioned by chronic arachnitis, or some other form of syphilitic disease of the brain. There has been no appearance of constitutional symptoms in either father or mother since the birth of the boy in 1872, whose case I have particularly described; but neither parent is in robust health.

Case II.—Mrs. P., a previously healthy woman, was infected by her husband in February, 1871. She states that she had a primary sore, followed in a few weeks by secondary symptoms, in the form of a rash which covered her entire body, and which remained for a period of nearly six months. She came under my notice in the early part of 1874, being at that time pregnant with her second child. After giving me her history, I examined her body, and found marks of where the eruption had existed as she had stated. I naturally felt anxious about the welfare of the product of the conception; but at the end of the seventh month she settled the matter by giving birth to a dead child bearing unmistakable evidence of the presence of the constitutional infection. She herself was at that time entirely clear of visible evidence of the disease. She remained well until January, 1876, when the latent poison again developed itself by an eruption over her arms, and extended in a less marked degree to her chest and other parts of her body. The eruption yielded kindly to treatment, and in less than two months had entirely disappeared. She again became pregnant in April, 1877, and in the sixth month of gestation her husband infected her again, a soft chancre appearing on the labia minora. By local applications, coupled with constitutional treatment, the primary sore soon healed, and no secondary symptoms made their appearance. If I was anxious about the welfare of the product of the conception in the first case, I was doubly anxious about the one now in utero; since it had the poison which the former had to contend with, plus a fresh invoice received during the sixth month of uterine life.

In spite of my gloomy forebodings and unfavorable prognostications, coupled with the anxiety of the parents (who well knew the gravity of the circumstances), she went on to full term, and gave birth to a fine, healthy male child, with a skin as pure and clean as though no taint had ever been seen in either parent. I have watched the child closely since its birth, the parents being very anxious for fear of some appearance of the disease, and have seen nothing to indicate that it has inherited the taint which was so prominently present in both father and mother both before and during the period of utero-gestation. I gave it a close examination yesterday, and consider it a remarkably

well-nourished and healthy child, with a pure clear skin.

The two cases narrated here confirm very fully some of the aphorisms given by Hutchinson in his work on Syphilitic Diseases of the Eye and Ear.

The first also gives additional proof of the fact that constitutional syphilis does not prevent fertility even when both parents have been a long time affected. It also shows that a child born of a mother suffering from violent secondary symptoms during her pregnancy may show no signs of an inherited taint up to at least six years of age.

The second case shows that it is possible for a woman who has within a comparatively short period suffered from the secondary form of the disease, and during pregnancy from a primary attack, to give birth to a child which at its fifth month shows not the least sign of infection.

Notwithstanding authorities place very little reliance upon the efficacy of constitutional treatment in the prevention of the transmission of the disease to the offspring, my experience in the cases noted would seem to confirm the supposition that the treatment did exert a salutary influence, as the children born after treatment have suffered less than those born before.

1900 WALLACE STREET, June 4, 1878.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINIC OF DR. R. J. LEVIS,
Surgeon to the Hospital.

(Reported for the *Medical Times*.)

TREPHINING FOR FRACTURE OF THE LEFT PARIETAL BONE.

THIS man was struck on the head with a brick, which resulted in a depressed comminuted fracture of the parietal bone near its front border. None of the ordinary symptoms of concussion or compression of the brain are present. On examining the wound, which is about an inch in length, I find evidence of depression and comminution. The depression is considerable, but not driven down over a great surface. After administering ether to facilitate the investigation, an incision is made in the line of the wound, and the tissues are dissected up. If there are any detached fragments, they can be removed,

and if I can elevate the depressed portion of bone by the opening thus made, it will be unnecessary to trephine. The fragments are sharp and spiculated, and press down upon the dura mater, and if not soon removed will excite violent inflammation. This fracture partakes somewhat of the nature of a punctured fracture of the skull, and the danger to be feared is inflammation of the brain, rather than compression. The bone is so comminuted that by the use of the forceps quite a large piece of the outer table is removed, but the inner table still remains. It will be necessary to trephine in order to elevate the fragments perfectly, and to give the best chance to the patient.

The flaps are dissected up a little more, to give sufficient room, and the trephine is applied in such a situation as to avoid the vicinity of the middle meningeal artery, and must of course be applied upon a firm portion of bone. It is not necessary to take out an entire circle of bone, and therefore the instrument may overlap the margin of the fracture, but is held so that pressure is not made upon the fragments. The smaller the instrument the better, for all we desire is an opening which will allow us to use the elevator. The trephine, which is really a saw that cuts out a circular disk, is now rotated slowly from side to side, without any pressure being made upon it, but is kept in contact with the bone simply by its own weight. After a few turns have been made, the instrument is removed, and a small probe inserted into the groove to determine its depth. The skull seems to be cut through in this one place, though at no other point. It is important to remember this, for the skull is often thicker at one part than another, and one edge of the trephine might be cutting the membranes of the brain before the skull was perforated at the other edge. After you have made a groove, be sure to retract the centre-pin of the instrument. I work carefully now, and only saw on one side, because the bone is cut through at the opposite point, as shown before by the little probe. It is easy to regulate this by inclining the instrument to one side or the other. The disk is now loose, and is removed by the forceps. A number of fragments are found to be driven down upon the membranes, and the internal table is comminuted. The loose pieces are extracted, and then the elevator is inserted

and the depressed portion of bone raised up. Finally I shall smooth the edges by means of the raspatory. In cases of this kind you will often find that one fragment is a sort of keystone to the rest, and much depends on the skill of the surgeon in applying his trephine in the most advantageous position. The wound after it has been thoroughly washed shall be dressed with carbolized lint. The man's head is to be elevated, and in a short time he shall be given a brisk cathartic to act as a revulsive; in addition, four or five drachms of bromide of potassium shall be administered in the next twenty-four hours. These measures are to prevent the occurrence of inflammation of the brain, which is liable to occur.

[Cerebritis supervened, and the patient died two days later, from this cause.]

RESECTION OF THE HEAD OF THE HUMERUS FOR CARIES.

This boy came to the hospital last month to be operated upon, but his health was so poor that I had to wait until he was in a better condition. I shall operate to-day. Examination shows a fistulous opening over the head of the right humerus, and on passing a probe through this track I come at once to dead bone. Upon the introduction of my finger into the opening, to break up the adhesions, pus and blood flow out. The case is one of caries of the head and surgical neck of the humerus, for which treatment of an operative kind is demanded. Resection of the head of the bone shall be performed. In this operation we first locate the acromion process, then make an incision vertically through the deltoid muscle down to the head of the bone. This gives drainage in a downward direction. The amount of diseased bone in this case is greater than was anticipated. After determining the line between the diseased and the living bone, I apply the saw. In such cases the chain saw is often used with advantage. The portion of bone removed is about two and a half inches in length, and shows that the upper part of the humerus was entirely denuded of periosteum. The bleeding from the sawn surface left proves that I have cut through living bone; some portions of the head of the bone still remain in the cavity, but they will be removed by means of the forceps. The structures in this region are very vascular, and much hemorrhage would have resulted if the assistant had not controlled the

axillary artery by means of compression. Ligatures are applied, and the wound dressed with carbolized oil. The effect of this excision will be shortening of the arm, and the formation of an artificial joint, but in time we may expect quite a useful limb. The incision through the deltoid in a vertical direction has left its fibres uninterfered with.

[A week later the boy was shown, improved in condition, on account of the removal of the pus and diseased bone; and after a month had elapsed he could raise the arm as high as the umbilicus. Passive motion was employed daily; and the change in his general health was astonishing, for he regained flesh and color with great rapidity after the diseased structures had been removed.]

CARIES OF THE ANKLE-JOINT—EXCISION OF THE ASTRAGALUS.

Five years ago this man sprained his ankle, which seems to have been the starting-point of his trouble. It probably set up an inflammation, and this has gone on from bad to worse, until the bones became involved in the disease. We have now undoubted evidence that there is caries or necrosis of the astragalus, and it may be that there exists a similar condition of the tibio-fibular articulation. The ankle is very much inflamed and swollen, and you notice numerous sinuses which lead down to the diseased bone and pass across the joint, making their exit upon the opposite side. As regards operation, it is probable that amputation would be the best course to pursue, but our patient will not consent to it; hence I shall remove the diseased portions of bone by excision. After etherization, Esmarch's elastic bandage is applied to control the circulation. There is little hope of saving any of the functions of the joint; so I shall make a free incision, cutting through the tendons and everything else that is in the way. The rule is to cut from one sinus to another. I shall commence the incision in front of the internal malleolus and sweep around nearly to the external malleolus, taking care not to begin so far back as to wound the posterior tibial artery. Disease of the astragalus is found, as was expected, and I therefore remove the entire bone. There is no disease of the other bones of the foot, and the articular extremities of the tibia and fibula are perfectly natural. The best result we can expect from the operation is bony union

between the os calcis and the tibia, which will give the patient a very good foot. Only one vessel of any importance has been cut, which is the anterior tibial artery. No blood was lost, on account of the employment of the elastic bandage; but the arteries are allowed to spurt, now that the operation is completed, in order to show where to apply the ligatures. The dressing employed shall be charpie and carbolized oil.

[A week later it was reported that the patient was doing well, and that the wound gave him no pain of consequence.]

TRANSLATIONS.

PELLETIERINE, THE ALKALOID OF POMEGRANATE RIND.—Tanret, pharmacist, of Troyes, sends an account of this new alkaloid to the *Bulletin Général de Thérapeutique*, May 30, 1878. It is known that the fresh pomegranate rind possesses strong anthelmintic properties, while the same when dried is nearly or quite inert. The active principle must, therefore, be very alterable. Up to the present this has not been discovered, but Tanret now states that he has been able to obtain the alkaloid from both the root and stalk bark, as found in commerce, and he proposes to name it in honor of Pelletier, the chief investigator into the properties of alkaloids. The method of preparation is briefly as follows. The bark, roughly powdered, is moistened with milk of lime, and then placed in a vessel, and cold water is used for lixiviation. Three parts of the liquor are retained, and are agitated with chloroform, and the solution drawn off by proper apparatus. This chloroformic solution is then shaken up with dilute acid until the reaction is neutral or slightly acid. Thus a solution of chlorate, sulphate, etc., is obtained, according to the acid employed. This is evaporated in vacuo over sulphuric acid, in order to obtain the crystallized salt.

To isolate the alkaloid, the saline solution is treated with carbonate of potassium, and shaken up with ether or chloroform. The ethereal or chloroformic solution being distilled at a low temperature, the alkaloid is left as a residuum. A kilogramme of dried pomegranate root has by this method yielded Tanret nearly four grammes of sulphate of pelletierine. With

fresh rind no doubt a larger proportion could be obtained.

Pelletierine has an oleaginous consistency, and when obtained by evaporation in vacuo of the ethereal or chloroformic solutions is colorless. When obtained by distillation in the air, it has a light yellow color. It is soluble in water, alcohol, ether, and, above all, in chloroform. Its salts are very deliquescent.

Pelletierine is not poisonous. Tanret took fourteen centigrammes of the sulphate. His pulse fell to twenty per minute, within three-quarters of an hour; he experienced vertigo, lasting some ten minutes, not severe enough, however, to prevent his writing. No change of temperature was observed. Whether the alkaloid of pomegranate rind is as efficacious an anthelmintic as the latter itself remains to be seen, since Tanret has made no experiments in this direction. The process by which pelletierine is made is an easy one, and it might be advantageous to try the effect of a remedy which may probably prove more easily administered and more agreeable than the rind of pomegranate. x.

TUBERCULAR MENINGITIS CURED BY IODIDE OF POTASSIUM.—A man, 34 years of age, under the care of Prof. Peter, suffered from violent frontal cephalalgia, aggravated by light; eyes closed, pupils equal, strabismus, stiffness of the neck, constipation, some nausea, retention of urine, pulse 54, sighing respiration, very painful cramps in the limbs, meningitic stripe, continual complaints and groaning. Temperature, 98.6°. The summit of the right lung was evidently the seat of tubercular deposit. Within the next few days rapid emaciation set in. At the end of a week the patient was much worse, and indeed seemed in evident danger of death, when M. Peter placed him upon the use of thirty grains of iodide of potassium daily. From this time the patient rallied, and finally recovered so far that he was discharged from the hospital at the end of five weeks, the lung trouble, however, remaining the same.—*La France Méd.*, June 12, 1878. x.

RELATIVE VALUE OF VARIOUS MEDICINES IN THE TREATMENT OF DIABETES.—Fürbringer (*Deutsches Archiv für Klin. Med.*, 1878, Bd. xxi. 5. und 6. Heft) gives the results of a series of experiments made upon several diabetic patients, to whom were administered from time to time various

remedies which have recently been recommended in this affection. Salicylate of sodium and phenol were found of most service by Fürbringer, and their value in a given case seemed to be greatest when they diminished the excretion of nitrogen. When this effect failed, the hope of diminishing the excretion of sugar was small. Experiments with quinine, arsenious acid, pilocarpine, and benzoate of sodium, gave an unfavorable result, none of these having much effect in diminishing the excretion either of sugar or of nitrogen; the latter even increased it. Treatment of diabetes by thymol, oil of turpentine, digitalis, and bromide of potassium is contra-indicated. Digitalis does, indeed, seem to diminish the excretion of sugar and nitrogen, but it is by the disturbance of the digestive canal which it provokes, and which causes these products to be excreted by the intestines, and also less food to be taken. x.

ANTAGONISTIC EFFECT OF ATROPINE AND PILOCARPINE.—Luchsinger (*Cbl. f. Chirurgie*, 1878, No. 16; from *Pflüger's Archiv*) concludes from his experiments upon cats that a certain admixture of atropia with pilocarpine can abolish entirely the excitative effect of the latter. If, however, the proportion of pilocarpine be augmented, the paralyzing action of the atropia may be overcome. x.

TREATMENT OF CANCER BY PREPARATIONS OF GUACO (G. v. Schmidt: *Cbl. f. Chirurgie*, 1878, No. 16; from *Wien. Med. Wochenschrift*).—There seems no reason *a priori* why some internal remedy may not be discovered which shall do for epithelial and other new growths what iodine does for syphilitic new formations. Dr. Schmidt suggests guaco, which he has used in the form of tincture and plaster. x.

ULCERA KLYSMATICA.—Köster (*Cbl. f. Med.*, p. 109, 1878; from *Deutsche Med. Wochens.*) alludes to a case of Von Recklinghausen's, in which an ulcer was observed in the rectum, two inches above the anus, the size of a quarter-dollar, non-inflammatory, perforating the coats of the intestine, and giving rise to peritonitis and death. The form and seat of this ulcer indicated traumatic origin, and Köster considered it due to the frequent use of an enema-syringe, the end of the nozzle of which just reached that point. K. also suggests that many anal fistulæ may owe their origin to this cause. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 17, 1878.

EDITORIAL.

WANGA PLANT AND VOODOOISM.

SOME months since, noticing a paragraph in a foreign exchange stating that a powerful narcotic plant, unknown to science, was largely used in Hayti as an ordeal poison, the editor of this journal wrote to the government at Washington, asking that inquiries be made. Secretary Evarts very courteously and promptly wrote to the minister at Hayti, requesting an investigation, and the result is so interesting that the letter is here published, with the omission of certain non-essential details.

No. 65.

LEGATION OF THE UNITED STATES,
PORT-AU-PRINCE, HAYTI, June 24, 1878.

HONORABLE WILLIAM M. EVARTS, Secretary
of State, Washington, U.S.A.

SIR,—Referring to your No. 12, of January 8 last, I have the honor to state that I have given the subject therein submitted, upon the letter of Professor Wood, due investigation.

The particular plant to which the name of "Wanga" is applied is not known by any one outside of the circle of the high functionaries, —the king, the queen, the papalois, and perhaps some of the more distinguished followers of the Voodoox. There can be no doubt that there is, among other things used by the king and queen, or priest and priestess as they are frequently called, at their initiations and at other times, as occasion may require, a plant of great narcotic power; and that those who use it have the best knowledge of the character and power of its properties, and how to make application of it so as to accomplish the effects which are desired. The testimony borne in this behalf is abundant and reliable; and it comes to the inquirer in forms and methods both curious and interesting. The more intelligent among the common people furnish entertainment by the hour in telling strange things which they witness as the effect of the manipulation of the plant by the waung, the priest, or papalois. And a like testimony is borne by authors who treat of this subject. In his excellent book, entitled "Description de la Partie Française de

Saint-Domingue," Moreau, speaking of the Voodoo ceremony of initiation, as translated, says, "The king of the Voodoox makes a great circle with a substance which makes a black mark, and there places the one who is to be initiated, and puts in his hand a packet of herbs, horse-hair, pieces of iron, and other things as disgusting. Afterwards, striking him lightly upon the head with a little battledore of wood, he (the king) begins singing an African song, which those in the circle repeat in chorus; when the new member sets himself to trembling and dancing; this is what is called 'monter Voodoox.'"

But what the herbs are which the king uses, how they are compounded, what qualities they possess, whether they are the products of this country, and whether he uses more than one, are all matters of conjecture among the uninitiated.

The herb is used on other occasions as well as at initiations. Whenever miracles are to be wrought, the sick healed, the dead brought to life, or any display of power that is superhuman and calculated to strike the masses with awe is to be made, the herb is used. It is often told with the most profound sincerity and faith, even by those who declare that they do not belong to the Voodoox, that the papalois, a subordinate official of the sect, or even one of them of a still lower official grade, who is moved by what is called the "Lois," can and does resurrect the dead. But the herb always, according to their stories, plays its part in connection with such performances.

The "Lois," as I judge from the statements and explanations of those with whom I have talked on the subject, is a sort of spiritual influence or power, which is sometimes directly bestowed, but more generally inherited. It comes to the child from the parent or grandparent, and when once in the family never forsakes it, but abides forever, descending from mother or father to son or daughter.

The followers of this faith in this country are very numerous, including all grades of social life. It is generally believed that the Emperor Soulouque was a member. He certainly did nothing, unlike his successor Gefrard, to prevent the increase of its power or its cannibalism. It is well known that the Voodoox are eaters of human flesh, and to secure it do not hesitate to take human life, especially that of small children. With such victims they profess to make sacrifices to their strange god. In connection with these, too, the sacred herb, like the drum and other instruments so constantly used by them, figures conspicuously.

There are several considerations for concluding that the herbs which are used by the Voodoox grow in Hayti.

There is a plant, the product of this country, growing in great abundance, within the reach of those who desire it, whose properties

are well known, and which possesses remarkable narcotic power. This plant is often used here on account of its peculiarly narcotic properties, even by the ordinary Haytien not a member of the Voudoux, for medicinal purposes, as well as those that are lascivious and base.

In his work of rare merit, entitled "*Flore des Antilles*," Descourtiz in the third volume describes the *stramoine épineuse*, or *Datura*, and states, in connection with its natural history, that people believe in San Domingo, as he is assured by Colonel Deveux, that the discovery of its somniferous properties is due to a negro, who used it to put an old proprietor to sleep, to enable him to steal his bees.

He also tells the story of certain clever negresses who used the same plant to put the lover whom they did not prefer to sleep, while they stole to the embraces of him who was vanquisher.

The juice of the plant, as is well known, has been used not unfrequently to produce temporary blindness; and persons using it have been examined by the surgeons of the government and pronounced blind and unfit for military service, when, after its influence had passed away, the sight was restored, without the least deleterious effect having been produced upon the optic nerve.

Were one to visit the ordinary family of Hayti, and find himself, from fatigue or fear or anguish of mind, wakeful and restless, it is almost certain—if he let his condition be known—that he would be advised of the soporific effects of the *datura*, and leaves of the plant would be put under his pillow to make him sleep. Five leaves of this plant are said to be sufficient for ordinary cases, under such circumstances.

There are several varieties of this plant found in Hayti. Descourtiz mentions and describes three. In addition to the one already named, he gives the *stramoine larmenteuse* and the *stramoine cormic*, the three being described as toxic and bitter-narcotic. All three, in strange but natural combination, may be used by the king or papalois of the Voudoux. Or it may be the case that these are used in combination with other plants, the properties of which have not been made known to science. For I am advised that only six hundred of the two thousand varieties of plants in this country have been examined, classified, and their properties determined and defined. Upon this branch of the subject I have had several interviews with Dr. J. B. Delroux, who is altogether the most learned and scientific man of this republic. He informs me also that efforts will be made, though necessarily in a very imperfect way, through the chair of botany which has lately been established in connection with the medical college of this city, of which he is the president, to explore, to some extent, this

field, which must be full of rich treasures for science.

But we may conclude that the *stramoine épineuse* is the main ingredient of the herbs used by the Voudoux, from the fact that it possesses the qualities, the properties, which work the result which the devotees of this strange religious fanaticism desire; and in this particular species of the plant these peculiar properties are more largely found than in either of the others. Descourtiz, in describing its properties, says,—

"Others mix them with tobacco. These grains, pernicious to man as it is said, have a property for fattening hogs by causing them to sleep a great deal."

In speaking of it in another connection, he says,—

"This plant, a native of America, is found in all the sandy fields of Europe, where it is perfectly naturalized. The magicians, or pretended sorcerers of the colonies, procured for their sick, in the use of this plant, that species of voluptuous enthusiasm which made them forget, during some instants, the afflictions which oppressed them."

But it must be recollected that it is in the tropics that this plant grows with its greatest vigor and develops its properties in full power. Here, it is a thrifty, handsome plant, with a strong odor and remarkable narcotic power. The same species of plant, known as the "*Jamestown weed*," was formerly found in the States; and in the early settlement of Ohio and other parts of the West it grew quite thriftily; but not as it does here. Its leaf, blossom, and fruit, as well as limb and trunk, show that here its roots find the sweetest and most natural nourishment.

Everything connected with the Voudoux service, the serpent, the herbs, the horse-hair, the pieces of horn, as well as the drum, the song, and the circle, have thrown about them a solemn mystery and are held in their sacred uses and effects as profound secrets. Everything is done, the initiation-oath is given and taken, with this object.

All that is said, therefore, with regard to this subject, as already stated, is said upon conjecture. It may have truth in it, it may not.

With sentiments of high regard, I am, sir,
Your most obedient servant,
JOHN MERCER LANGSTON.

UNILATERAL PAROXYSM OF MALARIAL FEVER.—A very extraordinary case of intermittent fever is reported (*Virginia Medical Monthly*, July, 1878) by Dr. M. Lewis, in which the febrile paroxysm was at times almost confined to the right side, the right axilla having a temperature of 104° F., the left of 100½° F., and the skin of the right side sweating profusely, whilst that of the left side remained dry.

CORRESPONDENCE.

LONDON LETTER.

THE medical profession is in unison with the bulk of the West-End tradesmen on the subject that this has been a very poor season,—a matter which comes home in a very practical fashion when the subject of the annual holiday is being discussed. It is astonishing how sickness apparently is influenced by circumstances. People do not seem to be so conscious of their ailments, or so anxious about their sensations, when money is tight; while good commercial times seem to confer a sort of hyperæsthesia upon humanity, an assiduous investigation of their subjective sensations, with consequent mental perturbation only to be allayed by medical consultations at high prices. When the benumbing touch of money-tightness comes close to them, its effects are felt to be the allaying of sensitive or hypersensitive feelings, and the rule of calm consideration of their maladies. Just as country practitioners will tell you they are never busy during hay-time and harvest,—a simple matter of fact, well known: the people in the country are too busy to be ill. Or, again, in neighborhoods where the doctor goes without the holiday now so universally practised, and his patients are accustomed to see him and nobody else, when at last he does go away nobody almost is ill till he comes back. If some philosopher who amidst this busy age has a little leisure time could study the subject intimately and with satisfactory results, then we might ask him to proceed to the investigation of the fact—or apparent fact, anyhow—that the action of remedial agents does seem to be influenced not only by the enthusiasm, or want of enthusiasm, of the prescriber, but even by the therapeutic theories by which he is guided in administering the agent. This is a mysterious subject, on which the last word has by no means been said, nor, I fear, is it likely to be said in the lifetime of the present generation. Is it possible that the confidence of the practitioner in his remedy communicates itself to the recipient, and this “expectation” adds to the natural potency of the drug? Take most agents, say salicylic acid, for instance, which as an agent but very recently employed on a large scale has had the advantage of the most recent methods of investigation, as means of explaining its *modus operandi*, and what do we find? The greatest possible diversity of opinion as to its effects; one extolling it above everything for the treatment of acute rheumatism, while another says it has signally failed in his hands, and none, either advocates or dissentients, venture to suggest how it achieves its ends, when its administration is followed by the most striking results, to all appearance, too, distinctly as consequences of its use. Such varied, diverse, and

even contradictory results baffle all human ingenuity to account for them, and leave one to the shadowy impression that after all there is and must be something which modifies the physical action of remedies,—a conclusion in which neither scientific culture nor common sense can participate.

The Hospital Sunday Fund does not increase, but on the other hand shows visible decrease, very unfortunately. The contributions of the last three years have fallen below those of the two first years of this fund in London. The great success which attended the establishment of a hospital Sunday collection in several of the large provincial towns, and very notably in Birmingham, at length led to the attempt being made in the metropolis. The thing was launched most favorably; the highest civic authorities—the Lord Mayor himself, indeed—presided over the organization and the distribution of the funds so obtained; preachers of all kinds, from her Majesty's chaplains to the less distinguished dissenters, entered eagerly into the matter; congregations vied with each other in friendly rivalry as to which should stand at the head of the subscription-lists; and as a consequence nearly thirty thousand pounds were subscribed on the first Sunday. Then came the distribution of the money, and discord followed. It was determined, wisely enough, that the amount granted to each institution should be in proportion not merely to its size and its wants, but also to the economy with which it was administered. This last was a severe test, which some institutions bore very imperfectly. Then there was a rule to the effect that no grant should be made to any institution which was not managed by a committee duly constituted. This was an excellent rule, which might well have been adhered to. Then another rule provided that in no case shall a grant be reduced or withheld until a conference shall have been sought with the managing committee; a rule to which no exception can be taken. Yet confusion has been the consequence of the attempt to do equitable justice to the different charitable institutions entitled to participate in the benefits of this fund. The well-known Golden Square Hospital for Diseases of the Throat, under the practical administration of a well-known physician, somehow did not receive as much as it thought it was entitled to from the fund, and much controversy and open battle went on betwixt its medical head and an *ex* Lord Mayor. This year it is found that the grant awarded previously to this hospital has been withheld without any conference with the committee of management being either sought or accepted. It is quite true that the investigation into this charity recently, when the Prince of Wales withdrew his patronage from it, and the stubborn refusal of the authorities impugned to publish the whole investigation and let the

public have an opportunity to judge on the matter, when repeatedly invited to do so, may have done much to influence this decision. But still the distributors of this fund have no truly judicial standing, and whatever may be their impression that substantial justice may have been done by their action, still they ought to be guided by and adhere to their own rules: else what confidence can the public have in their administration? When influence is brought to bear on decisions, no matter by whom or for what object, confidence in the administrative body is shaken. If they have rules, they should keep them; if the rules are objectionable, they should be modified; but as long as rules stand they ought certainly to be kept. This, at least, seems a common-sense view of the subject.

Then, again, this year a large grant has been awarded to a hospital for chronic and incurable cases, which, however meritorious or deserving, is not managed by a committee at all: here a flagrant breach of an important rule has been perpetrated. It appears, then, that the committee of distribution has got some secret rules by which their openly recognized rules are modified or even put in abeyance, and about these inner regulations the outer world knows nothing. It further appears that there are some "vague and undefined things called 'merits' and 'pecuniary needs' on which the awards have been made." But this mystery, though inquired about, has not yet been penetrated, and the public is very likely all the more inclined to button up its pockets next year, and give less and withhold more, to the detriment of the general fund, and then forget to subscribe the balance in some other way, and then the charitable institutions of London will suffer for the acts of the distributing committee. As to who these persons are by whom these offences come, is not generally known,—very probably some of the numerous busybodies who obstruct and mar all good work by their obtrusive aid and participation. Incompetence is rarely accompanied by a modest sense of its capacity, or, rather, the lack of it. And intrigue worked even to do what may be substantially just, is a bad method of attaining an end: after all, it is but a form of conspiracy.

London already possesses seventeen general hospitals, fifty-two special hospitals, forty general and special dispensaries, together with forty-six Poor-Law dispensaries, and the cry is "yet they come." This month has witnessed the inauguration of a new hospital, with a no less distinguished personage than the amiable Princess of Wales as its patron. It is entitled the "West London Hospital for Paralyzed and Epileptic Patients," and starts with a very distinguished staff. Drs. Lockhart Clarke, William Broadbent, and J. Crichton Browne are its physicians; Callender is its surgeon; Greenhalgh its obstetric physi-

cian; and Lennox Browne its throat and aural surgeon. Such a team ought to run a good hospital in time; but at first sight it does not seem very apparent why such a portentous infant should suddenly put itself in rivalry with the already existing institutions,—the National Hospital for the Paralyzed and Epileptic, in Queen Square, where there are Ramskill, Ratcliffe, Hughlings Jackson, Buzzard, Bastian, and Gowers; or the Regent's Park Hospital for Epilepsy and Paralysis, where there are Althaus, Meryon, Hughes Bennett, and Ferrier, and where Lockhart Clarke was, and possibly is yet, a member of the staff. It has been asserted that the diseases of the nervous system are on the increase, and the assertion seems indeed well founded; and this last aspirant for public favor testifies to the growth of such opinion, as well as to the further fact of belief in studying such disease and the attempt to treat it.

Therapeutics, indeed, are the coming wave in medical opinion, and the interest of pathological research and physiological investigation is joining with clinical zeal and carrying us beyond the mere recognition of disease to the further subject of its scientific and rational treatment. Attention has been called of late to the work of Surgeon A. R. Hall in connection with cholera. Extensive experience of it, including an attack personally, brought him to the conclusion that the pathology is that of spasm of the smaller arteries and arterioles, with fulness of the veins, and squeezing out of the serous portion of the blood from the venules of the intestinal canal. The character of the pulse and the complete suppression of urine, the cold extremities and the generally gelid condition, bore out such a view. Being possessed of such an interpretation of its pathology, Mr. Hall rationally concluded that some vascular depressant would be more likely to be serviceable in the relief of the condition than the measures hitherto adopted. He decided to try the subcutaneous injection of chloral, with such success that he brought the subject before the London societies. But, fortunately, of recent years cholera has been but a subject of scientific interest to English practitioners, and little interest was awakened by these new views. It is in the East, and notably in British India, that the practical interest in cholera is centred. From information privately received, Mr. Hall has had further opportunities of pursuing his practice, with very gratifying results. As is well known, when cholera is on the decline, no trustworthy observations can be made: if a line of practice is to be fairly tested, it must be at the commencement of an outbreak, when the terrible malady is on the rise. Placed at Gwalior, the case which occurred there got well; but at Morar, some four miles away, the outbreak was severe. Every case had either died or was dying, according to the admission

of the surgeon in charge. At this time no less than twenty-three had died. In the hospital were other nine, of whom four were decidedly moribund and beyond the possibility of any hope. Five were still potentially alive. To these chloral was given by injection in a solution of one part to ten of water, and from nine to twelve and up to eighteen grains of chloral were injected, and repeated as required according to the exigencies of each case. (What these exigencies were, and the indications of each case, will be forthcoming when the report is made; at present but the general outline is available.) Of these five, four were well at the date of the letter; one died after two days of uræmic poisoning, "reaction never being established." The previous treatment had consisted of chalk and opium, *per secundum artem*, and in some cases the hypodermic injection of morphia had been practised and stimulants had been co-administered. After this, six other cholera patients came into hospital, and of these, treated on the above plan, five completely recovered. The other man was a hard drinker; but in his case even all symptoms of cholera had ceased, and he was passing semi-solid stools, when low delirium set in, and he succumbed. On post-mortem examination, he was found to have his heart in a state of fatty degeneration, and the lungs and kidneys were congested. Thus, of six treated with chloral from the commencement five returned to duty; of five handed over and to whom the chloral was then given, four are quite well. A woman who was brought in after the heart-sounds had ceased to be perceptible, and injected with chloral, and who had previously been actively treated with rum and chlorodyne, died in convulsions in ten hours; but here there was a certain amount of reaction established, and the temperature rose to 100°. Two children to whom chloral was not given died forthwith. Of the cases which recovered, one man had total suppression of urine for more than one hundred hours, while another had almost complete suppression for over ninety hours and was comatose for two days. Yet these two men completely recovered. Such success certainly demands that further trials should be made and the plan be thoroughly tested. If it is found to be a step in the right direction, the terrible seriousness of cholera will cause it to be hailed with satisfaction; if after all it be but one of the multitudinous false hopes entertained, the sooner its pretences to professional confidence are abolished the better. But enough has now been done to demonstrate that the plan is worthy of being investigated on a large scale; and also, from what was said in the early part of this letter, it is desirable that the plan be tried by other practitioners, always provided that they follow out the instructions and the method in its entirety, so as to give it the fullest and fairest trial possible. Of the outbreak in and

around Morar, of fifty-one Britishers attacked no less than thirty-six cases proved fatal; of a detachment of native infantry, three hundred and twenty-one strong, no less than one hundred and nine were attacked, and of these fifty-five died. This will furnish some estimate of the virulence of the outbreak. Certainly Mr. Hall is to be congratulated on his good fortune, even if it ultimately turns out that his success was a coincidence and not a consequence of his treatment.

Those of your readers who have perused the recent lectures on ovarian disease and its treatment, delivered by Mr. Spencer Wells before the Royal College of Surgeons, must have been struck with their power and the vivid description of the different steps of ovariectomy furnished thereby. The history of the different steps, and the gradual development of the various improvements, were briefly given, and stress was laid upon the measures at present in use. The value of tapping was lucidly put, and indeed the whole subject was handled by a master mind. But if there was one matter which impressed the reader more than another it was the grim frankness with which Mr. Wells admitted various mistakes and mishaps that had occurred to him during his experience of ovariectomy. Fibrous tumors and fibro-cystic tumors of the uterus, the spleen, and other things, had been cut down on for ovarian tumors. A number of operations had been incomplete, and had not been proceeded with. But this is not all. Few men are in the position that Mr. Wells occupies, or could afford to confess what he revealed the other day. On one occasion a sponge was forgotten in a woman's abdomen. The nurse counted the sponges,—they were all there. There were no misgivings, and the operation was completed and the patient put to bed. Some hours after this the nurse came to say that a sponge was missing,—“a sponge she knew.” It was undoubtedly in the abdominal cavity of the patient, who was comfortable until the early morning, when she became restless and feverish. Under the pretext of altering the dressings, the wound was opened, and the sponge was found immediately under the wound, where it was *not* at the finish of the operation, having been moved there by the action of the intestines. Fortunately the case did well. At another time a sponge was missing, and after an elaborate exploration of the abdomen could not be found there. Still, it could not be found elsewhere: so the search amidst the viscera was recommenced. At last the sponge was found at the back of the liver, betwixt the liver and the diaphragm, and removed. How ever it could have found its way there is unknown; but it had got there, and well it was that it was discovered and removed, as the result could scarcely have been satisfactory with a sponge located there. Mr. Wells now uses

sponges of medium size,—not too big to be passed through the wound, and not so small as possibly to be forgotten. He also has them most carefully counted before and after the operation. Not sponges only, but other things that are required for ovariectomy have been left in the patient. Once a pair of forceps were missing. Search was made; but there was no alternative, those forceps were within the patient's abdominal walls. Again all at first seemed well; but the patient got uneasy before morning. The wound was opened, and the forceps were found "folded up in the omentum." This patient also fortunately recovered completely. Mr. Wells's magnificent success makes it possible for him to relate and criticise his own experience for the benefit and instruction of others.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, APRIL 25, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Conclusions of a Paper on the Causal Lesions of Puerperal Eclampsia. Presented by JAMES TYSON, M.D.*

IT might be anticipated that I approach hesitatingly to conclude upon a subject on which the results of observation are so various, and on which so many better qualified have thought carefully and expressed themselves so diversely. The following conclusions I have, however, reached:

First. There are no reasons why we should exclude from the causes of convulsions in the puerperal state those which operate to produce convulsions in the non-puerperal condition. This more particularly when we admit, as I think all must, that, let the cause be what it may, the nervous centres of the pregnant woman are generally hypersensitive, and therefore more ready to respond to peripheral stimulus—irritation of any kind—than are the nerve-centres of non-pregnant women; and this may be increased by the pressures and congestions incident to labor. This being admitted, any such peripheral irritation as the pressure of a child's head upon a rigid os, like the pressure of a tooth upon a child's gum, may excite a convulsion; or the irritation of uterine nerves compressed during muscular contraction, or emotion, whether pleasurable or painful, distress, anxiety,—all may excite a convulsion. And it is not impossible that such a convulsion may be fatal, as it is not impossible that such a convulsion may be fatal

in the non-pregnant woman. But such a result is indeed rare, and convulsions from these causes are not generally serious. They occur most often in primiparæ, where the labor has been long and painful.

But may such convulsions as these occur after delivery, when the irritation has apparently subsided? I believe they may. For, in the first place, the irritation does not necessarily cease with the termination of the labor. The sting of the lash by no means ceases with the cessation of its strokes. And, in the second place, we know that some time is often required after the operation of a peripheral irritant through a nerve upon a nerve-centre before the latter responds. It would seem as though some time must elapse before the requisite impulse can be generated in the ganglion cells to produce an explosion the resultant of which is a convulsion. Such I believe to be the nature of the convulsive attacks in most cases reported, where there is no albuminuria before the attack, and but little after it.

Second. A certain number of cases of convulsions which may be called puerperal possibly originate from extreme post-partum hemorrhage, from the anæmia which thus results in the spinal cord and its cranial prolongations, the medulla oblongata and tubercula quadrigemina.

Third. I think it not impossible, even, that puerperal convulsions may be caused by the congestion to which these same centres are subjected in a hard labor, as is evidenced by the red face, the protruding eyeballs, and headache, often agonizing during a pain, which the muscular effort produces. The number of these—the congestive or apoplectic cases of the oldest authors—has, however, in the admission of all, been reduced to a minimum by the subtraction from them of the cases of reflex convulsions just referred to in my first category.

Fourth. Outside of these categories, in which I would include a limited number of comparatively harmless cases and a smaller number of more serious ones, I would assign the causal lesion of puerperal eclampsia to be Bright's disease of the kidneys. The Bright's disease which I believe to underlie the large majority of serious cases of puerperal convulsions may either be present at the time the woman becomes pregnant, have preceded the pregnancy, or it may be acquired during the pregnancy. In the former case, as Dr. Barnes has said (*loc. citat.*), "the pregnancy does not mend matters," and the tendency, at least, is, by reason of the pressures and congestions naturally present in pregnancy, further to interfere with the elimination of excrementitious matters, whose secretion is already embarrassed by the renal lesion, independent of any addition thereto from the pregnant state. And yet it is a fact observed by very many, that such persons by no means necessarily have convulsions before, during, or after

* The entire paper on which these conclusions are based will be published in the Transactions of the Society for the session 1877-78.

labor, especially if they are multiparæ. This is unquestionably due to the accommodation or balance which we know to be set up in different parts of an economy where another becomes gradually involved in disease. We all know how different are the results of gradual and sudden brain-lesions,—how the former may advance to an extreme degree without giving symptomatic evidence of their existence, and how serious are the consequences of even slight degrees of the latter. But we must at least admit the pregnant woman with pre-existing Bright's disease to be in the same danger of convulsions as the woman with Bright's disease who is not pregnant, and it is not unreasonable to suppose that the danger of the former is somewhat greater than that of the latter, and in cases of primiparæ very much greater. And thus are caused some cases of puerperal convulsions. In these cases the form of Bright's disease may be any one of those to which all are subject.

In the second series,—where the disease is *acquired*,—it is almost invariably catarrhal nephritis (parenchymatous nephritis, or tubal nephritis), of which the typical example is seen in the Bright's disease concurrent or sequel to scarlet fever.

This conclusion—that most cases of puerperal convulsions are caused by Bright's disease—is justified by the fact that these cases are almost invariably accompanied by *albuminuria*, and, where a microscopic examination of the urine is made, by *tube-casts*; that a very large number are also attended by *œdema*; and that where they terminate fatally, the autopsy generally reveals disease of the kidneys. In confirmation of this, while referring generally to the cases reported in the past pages, I desire to call your attention particularly to an analysis of the series of cases, one of the largest on record, as well as one of the most accurate,—the microscopic and chemical examinations being often made by Prof. Flint, Jr., and that of the kidneys often by Prof. Alonzo Clark, of New York,—reported by the late Prof. Elliot, in his *Obstetric Clinic* (1868), pp. 101 to 126. The list includes fifty-one cases of *albuminuria* and *eclampsia*, of which six have no exact bearing upon the subject. Eleven are cases of kidney disease, with *albuminuria*, during pregnancy and parturition, not associated with convulsions, thus leaving for consideration thirty-four cases of *eclampsia*. In four out of these thirty-four cases *eclampsia* was not associated with *albuminuria*, nor were any *tube-casts* in the urine. Of the thirty cases in which the *albuminuria* and *eclampsia* co-existed, fourteen recovered and sixteen died. Autopsies were made only in seven cases, with the following result: *Case 3*. One kidney in a state of advanced Bright's disease, and the other perfectly healthy. *Case 5*. Advanced Bright's disease (large white kidney). *Case 11*. Well-marked Bright's disease. *Case 13*. Fatty kid-

ney. *Case 34*. Kidney enlarged and congested, but not changed in structure. *Case 36*. Kidney large, white, congested; weight of the two, thirteen ounces, and, under the microscope, granular degeneration. *Case 47*. Although *albuminuria*, *œdema*, no symptoms of *uræmia*; there was no convulsion until the next day after labor; coma supervened immediately after the convulsion, and she died the next day, forty-two hours after delivery. At the autopsy, "the kidneys weighed four and a half ounces, and were healthy under the microscope." Both lateral ventricles of the brain were filled with bloody serum; the third ventricle contained serum and a small clot; and the fourth was filled with clotted blood. The vessels of the neighborhood were examined by Prof. A. Flint, Jr., and found to be *atheromatous*.

The notes on the four cases of *eclampsia* referred to above, which were not associated with *albuminuria*, are as follows: *Case 8*. Has had three miscarriages; there was *œdema* of the face and upper extremities; secretion of urine normal in quantity, and no albumen present; no microscopic examination of the urine was made; *eclampsia*; child putrid; death of the mother; no autopsy. *Case 19*. Ninth confinement; no albumen, but great quantities of urate of ammonium, some urate of sodium, and bile; *eclampsia*; mother and child livid. *Case 30*. Primipara; no *albuminuria*; only two convulsions; recovery. *Case 39*. Primipara; *eclampsia* after delivery; only three convulsions; no loss of consciousness; no albumen; recovery.

Of the eleven *albuminous* pregnant women referred to in whom no convulsions occurred, only five recovered, and six died during or after delivery. Autopsies were made in three only, and in *each was found advanced renal lesion*.

Now, as to Elliot's case 47, where there was *albuminuria*, *œdema*, a physiological confinement, a convulsion the next day, followed by coma, which continued until death, and the post-mortem revealed the *kidney weighing four and a half ounces, but healthy under the microscope*, there were, however, brain-lesions, including a small clot on one of the ventricles, and the fourth ventricle filled with clotted blood. The vessels in the neighborhood were examined by Dr. A. Flint, Jr., and found *markedly atheromatous*. It is not stated whether the kidneys singly weighed four and a half ounces or jointly; most probably the latter is intended; but in either event they would seem small. *They were not examined microscopically*. The vessels of the brain were *atheromatous*, and death occurred by rupture of one of them. Were these not, then, cirrhotic kidneys, attending which we constantly have *atheroma* of the vessels of the brain, and death by apoplexy?

As to the remaining four cases in which there was no *albuminuria*, it will be observed that in one there was a putrid child, and no examination of the urine seems to have been

made after the convulsions set in, and no microscopic examination at any time; no autopsy. There may still have been Bright's disease, or the convulsions may have been due to the absorption of septic matter from the putrid child. The remaining three cases were mild cases, and may be placed in my first category.

Again, take the three cases of Prof. Barker, alluded to under the abstract of his views. In two of the three, Prof. Barker acknowledges Bright's disease, and in one of these the diagnosis was confirmed by a post-mortem examination, in which the kidneys were found very much diseased. In the third case there was no albumen in the urine drawn from the bladder after she had had one fit, and again after she had had fifteen at least, recurring at intervals of five or ten minutes, and being profoundly comatose in the intervals. Premature labor was induced, but she died after further convulsions. At the post-mortem examination there were two ounces of serum in the cavity and lateral ventricles of the brain, and the cerebral vessels were congested, but the kidneys were pronounced by Dr. Alonzo Clark "slightly congested, but in other respects perfectly healthy." Here, then, is a case of severity, in which there is no albuminuria, and no renal lesions are discoverable after death. These are, at most, not very numerous. They may be slightly reduced by cases of the kind included in the first category, in which, without appreciable lesion, death occurs, just as it sometimes occurs by convulsions in non-puerperal women without any discoverable lesion; and it is not impossible that this one of Prof. Barker's, which I confess is the most striking I have met, may be of this number, especially as the case was one of peculiar distress,—that of a young woman of evident refinement and education, who had wandered from her home, several hundred miles distant, and, friendless in a large city, was compelled to make her bed on a door-step, whence she was taken roughly to a police-station, in which she had her first fit. Certainly, if circumstances of this kind are ever sufficient to excite convulsions, these are such. But I believe the number may be still further reduced, when we remember the imperfect character of the examinations both of the urine and the kidneys. Those only of us who have had experience in hospitals know how carelessly and hastily these examinations are often made. And in the examination of the kidneys themselves the liability to error is still greater. I hold that almost never is a naked-eye examination of a kidney sufficient to justify an assertion that it is not diseased, and especially when the naked-eye examination reveals "congestion." The microscope should always be used in these cases. For this very congestion obscures more delicate changes, so as to make them undistinguishable without

the microscope, and the microscope used intelligently. And, further, can we assign a limit to the mischief of a simple congestion in a kidney, especially if that congestion be suddenly induced? Finally, if it is remembered that experience often shows temporary absence of albumen in some cases of chronic Bright's disease, and that cases have even been reported with albuminuria, dropsy, uræmia, and death after scarlet fever, and yet the autopsy discovers no lesion in the kidneys,—when all these matters are considered, *I cannot but think that the number of serious cases of puerperal eclampsia which cannot be attributed to some form of Bright's disease is small.*

If I am asked whether I think it impossible that a convulsion should cause albuminuria, I answer, By no means. On the other hand, we not only have every anatomical reason for supposing this possible, when we recall the increased vascular pressure which must result from a convulsion, but we have also clinical evidence to this effect in the results of the examination of the urine of epileptics immediately after a fit, by Huppert (*Virchow's Archiv*, vol. lix.) and others, who found albumen in many such cases; but the peculiarity here is that the *quantity of albumen is always trifling*, unless the cases are complicated with renal disease; whereas the albuminuria of the puerperal state, at the period of convulsions at least, is very marked. But it is not impossible therefore for the milder cases of puerperal eclampsia due to reflex irritation thus to acquire a small albuminuria during the convulsions where previously none was present. Against this we should, however, guard. But the very circumstance makes it likely that a large albuminuria is due to a more decided alteration of the structure of the kidney than the mere congestive condition which is the cause of a small one.

Now as to the *cause of these renal changes* which lie at the bottom of so large a number of cases of puerperal eclampsia. How are they induced? Two views are held, by as many sets of observers, as will be recalled from the abstracts presented. One, held by Frerichs, Braun, Litzmann, Scanzoni, and others, attributes them altogether to pressure upon the emulgent veins, caused by the pressure of the pregnant uterus, producing congestion, albuminuria, and imperfect elimination of matters usually thrown off by the kidneys. This view is favored by the fact that albuminuria and eclampsia are most common in primiparæ, and in multiparæ with twin pregnancies, hydramnios, deformed pelvis, or other condition which increases the intra-abdominal pressure. On the other hand, it is objected to this view that albuminuria very early in pregnancies, some instances of which have been observed within two months after conception, cannot be thus accounted for. And it will be recollected that Bartels, in

his article on the "Parenchymatous Nephritis of Pregnancy," in Ziemssen's "Cyclopædia of Medicine," attempts to prove the anatomical impossibility of such pressure, while he claims also that congestion of this kind should be followed by interstitial nephritis instead of catarrhal nephritis, the conditions being similar to those in mitral disease of the heart, in which, from venous pressure, the blood is backed into the kidney and liver, in both of which is found the hard kidney of an interstitial nephritis.

Those who believe in the pressure theory attribute the albuminurias of early pregnancy to pre-existing renal disease,—which is not impossible.

The opposite party ascribe the parenchymatous nephritis to an intoxication of the blood, due to the increased amount of excrementitious matter which must enter it from the retrograde metamorphosis of the tissues of the fœtus, as well as of the mother; and consider its operation to be like that of the poison of scarlatina, which similarly induces a catarrhal nephritis. The reasons for this view are well given by Dr. Peter in the lecture already quoted, and I need only refer you to them.

I think the mistake consists in the adoption of either view to the exclusion of the other. Doubtless both contribute to it in varying proportions, according as circumstances favor the operation of one or the other. Certainly the greater frequency of the eclampsia in primiparæ, and the other situations above named, can only be accounted for on the pressure theory; while the force of Bartels's argument cannot be denied.

It must not be forgotten, as stated at the outset, that the pregnant woman is liable to acquire Bright's disease from the ordinary exciting causes of renal diseases,—exposure to cold and wet, excessive eating and drinking, or the absorption of some zymotic blood-poison; or even from absorption of septic matters, possibly from a putrid fœtus or morbid material from the interior of a partially-contracted uterus. These causes are all well tabulated by Dr. Johnson in the extract from his lectures.

Now, as to the toxic agent itself in those cases of puerperal convulsions due to Bright's disease, I doubt whether it comes properly within my task to discuss it to-night. But a very few words will dispose of it. It is very true that in a few instances only has an excess of urea been demonstrated in the blood of puerperal eclampsics. It has, however, been unmistakably shown to be present in some. Frerichs, it is well known, sought to prove that it was not urea, but carbonate of ammonium into which the urea was converted, and both Prof. Hammond, of this country, and Dr. B. W. Richardson, of London, have ably refuted it, although Spiegelberg has recently reasserted the original view of Frerichs, based on a series of experiments conducted by him-

self and Heidenhain (*London Lancet*, 1870). Hammond and others have also proven that the urine itself is a much more efficient agent in producing the symptoms of the so-called uræmia; and there is little doubt in my mind that it is not urea, or carbonate of ammonium, or any single substance, but it is the entire mass of excrementitious substances usually eliminated by the kidneys which, retained in the blood, give rise to the uræmic symptoms of Bright's disease, and of those cases of puerperal eclampsia depending on Bright's disease.

If it be asked how it happens, on the supposition of so grave a disease as parenchymatous nephritis, that recovery is ordinarily so rapid when labor has successfully terminated, the answer is again easy. Let it be remembered that we have ordinarily a case of catarrhal nephritis of short duration intensified by embarrassed circulation, if not primarily caused by it. This cause removed, the blood moves freely, the kidneys act rapidly, the quantity of urine is largely increased, and with it the excrementitious matter. The convalescence is therefore rapid. It is, however, no less so, and the case differs, indeed, in no way from that in catarrhal nephritis after scarlatina, where the toxic agent has not operated for so long a time or so virulently as to produce chronic changes. And it is well known that the earlier the symptoms appear, and the longer the disease has lasted before relief comes, and therefore the more deep-seated the lesions, the longer the albuminuria and the casts continue afterwards; while in a certain class of cases these symptoms continue, the relief does not come, the disease becomes chronic.

Dr. ALBERT H. SMITH said that Dr. Tyson's paper was so complete and exhaustive of the whole subject that it left scarcely room for discussion. He fully agreed with the views expressed in the paper and the conclusions arrived at; even going further than the author, in stating that, so far as his experience had gone, he felt justified in adopting the belief that all *genuine* puerperal convulsions are the result of renal disease. He would divide the convulsive seizures arising in pregnancy into two classes,—those from hysterical and those from renal causes; the former so easily distinguished from the latter in the character of the spasmodic movements in the facial expression, and in the partial consciousness and appreciation of surrounding conditions, as to leave no question as to their true nature. Convulsions arising from brain hyperæmia or from brain anæmia he had never seen as attendant upon labor. In every case of true puerperal convulsion he had found great quantities of albumen, and in all cases examined microscopically casts were present.

The theory of the albumen in the urine found at the time of convulsions, and not recognized previously, being the result of the

brain disturbance, was hardly tenable, when we consider the great amount of albumen found in these very cases of sudden appearance, the urine in many instances solidifying under heat, so that a test-tube or spoon in which it is heated may be overturned without disturbing it, and in malignant and fatal cases profuse hæmaturia being present. We have all of us seen albumen in the urine detected after convulsion from brain tumor, epilepsy, or other central conditions, but it is in quantities so small as to require delicate tests to discover it; Heller's test, for instance, giving a faint zone only at the margin of the acid.

The theory of anæmic origin, so strongly urged some years ago in a review in *Hays's Journal*, by the late Prof. Carson, is from an experimental point of view equally untenable. If the condition of anæmia bore any relation to convulsions as cause to effect, then, at any rate, we ought to have convulsions occurring after flooding; for if a slowly-developing anæmia, to which the brain would gradually accustom itself, would be a cause of eclampsia, how much more would the sudden abstraction of blood be attended with violent convulsions! But so far does experience not sustain this position that no relation between the two is ever seen in obstetric practice.

Dr. Smith had seen a vast number of cases of hemorrhage, both from placenta prævia, occurring weeks before labor, and from flooding after labor, and had seen the subjects of these conditions as nearly moribund from loss of blood as could be to live, pulseless, and with respiration almost suspended, and yet never had he seen puerperal eclampsia following such a case.

That the condition of pregnancy in itself predisposes to renal disease cannot be questioned; why or how, cannot be explained. But it is a matter of common experience that in cases of chronic albuminuria, when, under treatment, a diminution of the renal symptoms has taken place, the occurrence of pregnancy kindles up the spark into an active flame, and the chemical and microscopical tests and the physical and rational signs all show a marked and steady increase of the kidney trouble. Dr. Smith has had a patient for over nine years with chronic Bright's disease, in whose case treatment temporarily subdues the condition; but so rapidly does pregnancy aggravate it that on two occasions the examination of the urine, showing a great increase of albumen, has enabled him to diagnosticate pregnancy before the suppression of the menses had led the patient herself to suspect it. But in addition to this tendency to albuminuria from the mere condition of the pregnant woman, we have a powerfully-exciting cause in the pressure of the gravid uterus upon the renal vessels, more apt, as Dr. Tyson has shown, to occur in primiparæ; also, as is seen, in women having a long rest

between their pregnancies, in women with multiple pregnancies, and with pressure from the distention of a uterus with amniotic dropsy. And it is in these cases in which the development of the renal symptoms is rapid that we have the greatest tendency to convulsions and the most violent and fatal form of them when they arise.

Dr. Smith agreed with Scanzoni, that the more decided the evidences of renal disease, the more violent the convulsions and the more apt to be fatal. Recovery after the appearance of marked hæmaturia, with urine solidifying under heat, is the exception, and yet in cases in which the urine becomes albuminous early in pregnancy, and continues slowly to increase in this condition, we rarely have convulsions, unless set up by a sudden aggravation of the kidney lesion by some rapidly-developing cause. In this respect there is a resemblance to the history of the albuminuria of scarlatina, in which we observe that in those cases in which the renal trouble shows itself early, and proceeds by a steady course, we very rarely have convulsions; whereas in cases suddenly becoming œdematous, and showing the presence of large quantities of albumen, from exposure to cold, we very frequently have those symptoms culminating in eclampsia. And we have in the scarlatinal uræmia, in its complete history, a very strong argument by analogy in favor of the uræmic origin of puerperal convulsions, based upon the precise identity in the character of the convulsive movements, in the mode of onset, and the conditions of brain following each spasm, as well as those resulting from a continued repetition of them. The fact already mentioned, of convulsions having their violence and fatality proportioned so fully to the rapidity of development of the renal disease, observed as common to both affections, is further sustained as an argument by another equally well known fact, that often the first condition of things to call attention to the kidneys is the simultaneous appearance of anasarca and convulsions in patients previously considered in good health, the one in a normal physiological state of pregnancy, the other as fully convalescent from a mild attack of fever. And as a further point in the analogy, we often make in both conditions, even when anasarca and the general evidence of renal troubles are present, fruitless examinations of the urine for the discovery of either albumen or casts; finding at one time such conditions, while at others they are entirely absent and yet without any change in the general symptoms. But no one would consider this as militating against the theory of scarlatinal eclampsia being renal in its origin: why, then, should the fact that some observers have at times failed to find albumen in the urine of patients, *before* labor, who had eclampsia, followed by the *detection* of albumen during labor, be looked upon as a con-

clusive argument against the renal origin of puerperal convulsions?

Dr. FRED. P. HENRY said that Dr. Tyson's paper had confirmed his belief that Bright's disease is more than usually malignant when associated with the puerperal state. Under the term malignant he referred particularly to the explosive symptoms, coma and convulsions. This fact acquires a special interest when it is pointed out that there are conditions under which Bright's disease is rendered peculiarly *benign*. On a recent occasion he had endeavored to show that Bright's disease is very favorably modified as to its explosive symptoms by its association with phthisis. At that time he had seen several cases whose study had induced him to advocate this view, and since then he has seen several more. Patients with great œdema, albumen, and casts in the urine and cavities in the lungs, have retained their consciousness until almost the last moment of life, and have had no convulsions. Any one of large clinical experience must have observed this fact. Dr. Henry had endeavored to account for it by the insufficient oxidation of the blood due to the lung disease. It is well known that Ferrieh advocated the view that it is not the urea that causes the explosive symptoms, but carbonate of ammonium, a substance containing an additional atom of oxygen. Whether this be so or not, Dr. Henry is of opinion that diseases attended with insufficient oxidation of the blood, such as phthisis, modify Bright's disease in a favorable manner as regards the explosive symptoms. On the other hand, during gestation these processes of oxygenation are very active. Oxygen is required both for the mother and fœtus, and during the active interchange of gases the accumulated urea is readily converted into a more poisonous substance, whether this be carbonate of ammonium or some other.

It is customary to speak of the puerperal period as one of hydræmia, and this view was ably advocated by the late Prof. Carson; but such opinions have generally been founded upon theoretical considerations and the gross appearances of the blood. Even the microscope cannot determine absolutely the condition of the blood; a minute examination with Malassez's apparatus will, of course, give the relative richness in cells, but will not give any idea of the total amount of blood in the body, which certainly has a bearing upon the question.

In regard to the mechanical theory of pressure as a cause of Bright's disease during gestation, by impeding the flow of blood through the emulgent veins, it would require to be shown, in order to sustain it, that the forms of kidney disease associated with diseases of the heart, impeding the return flow of blood, are identical with the forms associated with pregnancy.

Dr. C. B. NANCREDE said he did not think

Bright's disease, occurring in the puerperal state, could be due to pressure, since we have it coming on early in pregnancy; nor is one kidney more affected than the other. The form of the disease is not that which is caused by obstructions, which is brown incuration. The uterus cannot press upon the emulgent vein, since we have a large amount of intestines between the two. In the cases of tumors of the uterus, we do not have this disease, according to most authorities; again, we have it in multiparæ. We meet with it much more frequently in twin pregnancies, even where the element of pressure is largely eliminated.

Dr. H. LENOX HODGE said that in distentions of the abdomen from ovarian tumors, albumen is sometimes found in the urine. It seems, in these cases, to be due simply to pressure. Although the pressure may be very great, and albumen present in the urine, yet convulsions do not occur. He had never known a case of convulsions due to the pressure of an ovarian tumor. Pressure does not seem enough to account for convulsions. In pregnancy there is an unusual nervous excitability, and the blood is filled with the effete products from two beings, in addition to pressure. Those who thought that in pregnancy there was no pressure on the renal veins appear to have overlooked the fact that the pressure is caused not by the direct contact of the uterus, but by the coils of intestines filled with gas and liquid, which like air-cushions transmit pressure in every direction, around every curve and in every notch.

Much light in many disorders is thrown upon their pathology by the results of the treatment adopted, and by the subsequent history of the case. In the treatment of puerperal convulsions, free venesection is recommended by the majority of authorities, although bleeding has fallen into disuse in most other disorders. The success of those who bleed freely in puerperal convulsions has been very marked. Dr. Tyson read, at the last meeting, the experience of Dr. Hiram Corson as being greatly in its favor. Dr. Hodge said that his father could not recall a single case of puerperal convulsions which he had lost when he had charge of it from the beginning. He bled, and bled freely. On the other hand, a very different treatment is followed in Bright's disease, and certainly very few would dare to bleed.

Then, again, as regards the subsequent history of the case. In Bright's disease there is a history of progressive danger. It generally ends in death. In the most favorable cases, if recovery takes place, there is a tedious convalescence. In puerperal convulsions the danger is limited to pregnancy, to labor, and to a little while after labor. If this period be passed, no matter how severe the convulsions have been, there is rapid improvement

and rapid restoration to health. Such different results must be due to some difference in pathological condition.

Dr. TYSON said he had already referred in his concluding remarks to the two views now held; one ascribing the result to a congestion due to pressure by the gravid uterus on the renal veins, the other to a poison accumulating in the blood, similar to that of scarlatina, and acting similarly; that against the former it is urged that abdominal tumors of equal size with the gravid uterus do not cause albuminuria; that Bright's disease sometimes occurs in the earliest months of pregnancy, when it is impossible that pressure should be exerted by the gravid uterus on the renal veins. That against the latter it is urged that, except in cases where the Bright's disease pre-existed, it very seldom originates in multiparæ, but only in primiparæ, and in multiparæ with plural births where pressure is most likely to be exerted. But since, as stated by Dr. Hodge, cases do thus occasionally occur early in pregnancy, and albuminuria is sometimes found caused by the pressure of large abdominal tumors, we must, in truth, admit the occasional operation of both causes; although he believed the second was the more frequent, especially as the form of kidney disease almost invariably found is the catarrhal, or tubal nephritis; whereas the form found in congestion of the kidney due to obstruction is always interstitial nephritis, in which the connective tissue is the seat of proliferation.

As to the prognosis of the two conditions, scarlatinal nephritis and the nephritis of pregnancy, he had also pointed out a similarity. If the poisoning is not too profound, and no lesion results from the convulsion itself, or the kidney is not permanently damaged, recovery is likely to take place in both. And as to the therapeutics being radically different in the two cases, Dr. T. was by no means certain that bleeding would not be as good a remedy in the convulsions of acute Bright's disease as in puerperal eclampsia, and, although it is never practised, the treatment which is found to be of most service under these circumstances—*active purgation, sweating*, etc.—is of the same character as bleeding, and operates in the same general way. Bleeding might be of great advantage in the convulsions of Bright's disease, and his friend Dr. Hiram Corson had already been referred to (in the body of the paper) as having used it with advantage. The difference in the two conditions lies chiefly in this, that the kidney is generally less damaged in the puerperal condition, and, having the cause removed, the organ is enabled to return rapidly to its original state and perform its function of elimination; while in the scarlatinal nephritis, sometimes, although not always, the poison has operated to such a degree as to produce permanent organic change in the organ, which cannot be removed, and thus the acute condition becomes a chronic one.

GLEANINGS FROM EXCHANGES.

A CASE OF POISONING BY CARBOLIC ACID INJECTED INTO A HEMORRHOIDAL TUMOR (*The Cincinnati Lancet and Clinic*, August 3, 1878).—Dr. T. L. Wright reports the case of a man, æt. 50, who suffered from hemorrhoids, which were injected by a travelling quack with a compound containing carbolic acid. The result in the case of two of the tumors was favorable. In the course of four or five weeks after the first injections, a new operation was performed upon another one of the hemorrhoids. This one was situated near the anus, and in a few hours after the injection (by a hypodermic syringe) the tumor escaped without the body and would not remain within the anus when replaced.

This injection was made about eleven o'clock A.M. The patient felt unusually uncomfortable, and at once went to bed. About four o'clock P.M., had a chill, attended with great nervousness and distress. Dr. Wright did not see the patient till six o'clock next morning. He had had a miserable night,—was in great nervous distress generally, but particularly complained of insupportable giddiness, and strange feeling about the head. As the patient was suffering from carbolic-acid poisoning, treatment of an eliminative character was instituted, with the bromides in addition. In the afternoon he was again seized with a "nervous chill,"—although profusely warm; unsteady, weak, irregular pulse, great giddiness, and impending convulsions. The patient recovered from this "chill," but continued exceedingly dizzy for three days longer.

After the patient had somewhat recovered, the tumor was removed with the knife. The internal structure of the tumor was full of sinuses, like those seen in the base of sponges. The syringe had penetrated into one of these, and the entire injection was passed directly into the circulation, causing all the sudden and dangerous symptoms that subsequently were developed.

LYMPHADENITIS RETROPHARYNGEALIS AND ITS RELATION TO IDIOPATHIC RETROPHARYNGEAL ABSCESS IN CHILDREN (*The Boston Medical and Surgical Journal*, August 1, 1878).—Dr. E. Kormann (quoted by Dr. Hayden in a review of recent progress in children's diseases) comes to the following conclusions as the result of his investigations into these conditions.

1. Swollen and inflamed retropharyngeal glands (lymphadenitis retropharyngealis) are a frequent accompaniment of diseases of the nose, pharynx, and mouth, as well as of the ear, and are probably to be regarded as the rule, in the same way as a swelling of the subcutaneous glands in eczemas of the skin, and in scrofulous inflammation in general. Among exciting causes are prominently to be

mentioned chronic inflammations as found in scrofulous children, and the acute affections of which inflammations of the mouth are one symptom, as diphtheria, measles, scarlatina, scôr, syphilis. With regard to smallpox the author has had no experience.

2. Retropharyngeal abscesses are always secondary,—idiopathic abscesses to a lymphadenitis, traumatic abscesses being consecutive to injuries, and sinking abscesses following caries of the vertebræ. Lymphadenitis is also a secondary affection, following a scrofulous or infectious disease of the mucous membrane. Abscesses called by Bokai secondary abscesses are to be classed with the sinking abscesses.

3. Retropharyngeal abscesses are not limited to the first two years of life (Schmitz), or to childhood (Bokai), although this affection in adults is extremely rare.

COMPARISON OF OPIUM, BELLADONNA, AND ACONITE (*The Lancet*, July 20, 1878).—M. Jules Simon establishes the following comparison between opium, belladonna, and aconite.

1. In regard to their action on the alimentary canal, opium causes thirst, dryness without acrimony, want of appetite, nausea, vomiting, constipation; belladonna, thirst, dryness with acrimony, nausea, vomiting, and diarrhœa; aconite, dryness, sensations of pricking and burning of the tongue, salivation in full doses, vomiting, and diarrhœa.

2. In regard to their action on the circulation, opium acts as a stimulant, causes diminution of pressure, though it is sometimes without action, and in large doses causes acceleration of the pulse and collapse. Belladonna acts as a sedative, lowers the strength, retards the frequency of the pulse, and produces a febrile state of the system. Aconite acts as a sedative, diminishes the arterial tension, renders the face pallid, retards the frequency of the pulse, and stops the heart in diastole. 3. In regard to the respiration, opium allays dyspnoea, when present, by diminishing the bronchial secretions; in large doses it causes collapse. Belladonna calms down excited respiration, diminishes secretion, and, in large doses, renders respiration spasmodic and irregular. Aconite retards respiration by its direct action on the nerves. 4. In regard to their action in febrile states, opium augments the cutaneous secretions, and produces general malaise, erythema, and eruptions. Belladonna produces neither sweating nor general discomfort, raises the temperature, and sometimes causes scarlatina-like eruptions. Aconite lowers the temperature. 5. In regard to their action on the secretions, opium diminishes the quantity of urine, and, in fact, diminishes the secretions generally. Belladonna causes augmentation of the renal secretion, with diminution of the bronchial secretion. Aconite causes increase of the urinary secretion, but diminishes the bronchial secretion. 6. In regard to their action on

the nervous system, opium acts chiefly on the cerebro-spinal system, belladonna on the cerebro-spinal system, and aconite on the spinal cord. Opium causes somnolence, sleep, intoxication, vertigo, muscular debility, diminution of common sensibility, contraction of the pupil, and diminution of the activity and vigor of reflex actions. Belladonna causes sleeplessness, gay or furious delirium, hallucinations, muscular agitation, diminution of the sensibility of the face, dilated pupils, and remarkable diminution of the reflex acts. Aconite leaves the intellectual faculties intact, but causes muscular torpor, anæsthesia, hallucination of the senses, and diminution of reflex actions, and produces slight dilatation of the pupil.

A CASE OF SCIATICA TREATED BY NERVE-STRETCHING (*The Lancet*, July 6, 1878).—Dr. A. W. Macfarlane reports the following case. Mrs. X. is 29 years of age. When sixteen years old, she suffered from slight lateral curvature of the spine, which to a very slight extent still exists; and since that time she has occasionally suffered from spinal tenderness, which has always yielded to tonics and counter-irritation of various kinds. With this exception she has been a very healthy woman. She has never borne children, but has no uterine disturbance.

On January 26, 1877, Dr. Macfarlane found her laboring under a very painful attack of sciatica, which had come on after a chill; and from that time until November 3 it was uninfluenced by treatment, although most perseveringly applied,—locally, by morphia injected hypodermically, aconite, belladonna, opium, chloroform, and cantharidine liniments, leeches, fly-blisters frequently applied, acupuncture, hot douching, actual cautery, and galvanism; internally, by quinine, iron, chloride of ammonium, strychnine, arsenic, phosphorus, iodide of potassium, zinc, actæa racemosa, turpentine in large doses, purgatives, etc. These were all tried in full, even large, doses, and continued sufficiently long to show they were inert. The only improvement that took place was a transient one, when, at the seaside, she was having hot salt-water douches.

Dr. Macfarlane was at last driven to propose stretching the nerve, and performed the operation, under antiseptic precautions, on November 3, stretching the nerve thoroughly, though he failed to lift the leg off the table. The wound healed by the first intention. Since that time till now (July 3), more than eight months, not the slightest return of pain has been experienced.

DISLOCATION OF MUSCLES (*The British Medical Journal*, July 13, 1878).—Mr. George W. Callender, after detailing some interesting cases of this injury, concludes as follows: "If, then, you come across a case in which sudden or unusual movements of the body have been followed by pain,—local in its

character,—made worse by certain movements, or preventing certain movements, and especially if such pain be referred to the site of muscular digitations about the spine or to that of long comparatively slender muscles, as in the forearm, it is at least worth your while to try the simple measures which we may use for reducing the dislocation of a muscle. First, guided by the pain, decide as to the muscle or digitation of a muscle probably the seat of the trouble. Secondly, relax this muscle so far as you can. Thirdly, by firm manipulation, such as by rubbing with the hand or by kneading with the thumb, endeavor to replace it. Fourthly, if this fail, make pressure over the part whilst you bring the muscle into action or put it on the stretch; and, if the less painful measures have failed, this is almost sure to bring the muscle into position. All this has to be done without the employment of an anæsthetic. We need guidance from the patient; we require action in the muscle. Some amount of pain is inseparable from the treatment of these dislocations."

THE FORM AND CONTAGIOUSNESS OF YELLOW FEVER (*The Lancet*, July 20, 1878).—Mr. Robert Lawson, Inspector-General of Hospitals, after a detailed consideration of the relation of this disease to other fevers, and especially of a number of cases which occurred on board H. M. S. Bristol, sums up his conclusions as follows:

1. Yellow fever is not a disease always presenting the continued form, but is met with frequently as a remittent, and even as an open intermittent.

2. The sporadic cases presenting yellowness of surface and black vomit are also found to have the train of urinary symptoms characterizing yellow fever, and are consequently identical with those met with during an epidemic.

3. In very many instances where persons in the vicinity of yellow-fever cases are attacked with the disease, the facts do not admit of the exclusion of local causes, and such instances, therefore, cannot enable us to decide whether these causes or personal contagion have originated the disease; but from time to time other instances occur in which the exclusion of local causes can be assured, and in these, however extensive the exposure of susceptible individuals to the emanations from the sick may have been, the uniform result is that no communication of the disease has taken place.

TREATMENT OF INTERMITTENT FEVER BY CARBOLIC ACID (*The Canadian Journal of Medical Science*, June, 1878).—Stern gave carbolic acid in recent cases, as well as in old cases relapsing after quinine. He prescribed it according to the formula of Hehle: carbolic acid 0.40, distilled water 180.00 (or 1 in 72); one tablespoonful three times a day. Out of twenty cases so treated, fourteen were

cured after a single dose of this solution, four after two doses; two cases resisted the treatment. Six were quotidian fevers, eleven tertian, and two quartan; in these last there was no return of the attack after the beginning of the carbolic acid treatment; in the tertians there was ordinarily one more attack, in the quotidian two more.

NOTES AND QUERIES.

EDITOR PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—For some time past I have noticed that credit has been given to various gentlemen for the discovery that arsenic, in some form, taken at the same time with bromide of potassium, prevents the eruption usually seen when the latter remedy has been used any length of time.

This has long been known at the Infirmary for Nervous Diseases, and frequently used, but always with the full understanding that Dr. Echeverria, of New York, was the first to call the attention of the profession to it.

In his book on "Epilepsy," New York, 1870, page 318, after mentioning certain other effects produced by bromide of potassium, he says,

"The skin has displayed a peculiar brown hue, more striking in the forehead and neck, and, more generally, a papular eruption, upon exhibition either of small or large doses of bromide, and irrespective of any condition of bromism. I discovered, four years ago, that the association of the bromide of potassium and the arseniate of potash avoids the eruption just mentioned. We, however, fall short of this result if alkaline baths are not employed in conjunction, or if the eruption be not previously arrested on discontinuance of the bromide. From five to eight minims of Fowler's solution, added to each dose of the mixture of bromide, will prevent the cutaneous eruption."

Very truly yours,

ROBERT H. ALISON.

250 SOUTH SEVENTEENTH ST., July 26, 1878.

NEW YORK, August 3, 1878.

THE next annual meeting of the American Dermatological Association will be held at the Grand Union Hotel, Saratoga Springs, New York, August 27, 28, and 29. Many important papers will be read. Regular practitioners are cordially invited to attend the meeting.

R. W. TAYLOR, M.D., *Secretary*.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 28 TO AUGUST 10, 1878.

SUTHERLAND, CHAS., COLONEL AND SURGEON.—Granted leave of absence for nine months. S. O. 162, A. G. O., July 26, 1878.

MIDDLETON, J. V. D., MAJOR AND SURGEON.—Granted leave of absence for twenty days. S. O. 137, Department of the East, August 3, 1878.

TILTON, H. R., MAJOR AND SURGEON.—Granted leave of absence for four months. S. O. 166, A. G. O., August 1, 1878.

GARDNER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Atlanta, Ga., and assigned to duty as Post-Surgeon at St. Francis Barracks, St. Augustine, Fla. S. O. 15, Department of the South, July 28, 1878.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Brady, Mich. S. O. 136, Department of the East, August 2, 1878.

WILSON, WM. J., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Niagara, N. Y. S. O. 131, Department of the East, July 27, 1878.

CLEARY, P. J. A., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 134, Department of the Missouri, July 30, 1878.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 31, 1878.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF IPECACUANHA AND ITS ALKALOID.*

BY JOHN K. FOULKROD, M.D.

EMETIA was discovered in 1817 by Pelletier (*Jour. de Pharm.*, iii. 145). When pure it is a white, uncrystallizable, odorless powder, of a bitter, burning taste, soluble in one thousand parts of water at 50° Cent., freely soluble in dilute and absolute alcohol and chloroform, slightly soluble in ether.

Test.—Dr. Dyce Duckworth (*St. Bartholomew's Hosp. Rep.*, vol. vii.) gives a characteristic test for emetia. His method, which has been repeatedly employed by myself, is as follows:

To a solution of emetia tannic acid is first added, and to the mixture a small quantity of aqua ammoniæ; a red color is produced which changes to an orange.

General Action.—In a number of experiments made by myself I have corroborated those of Dr. D'Ornellas (*Gaz. Méd.*, 1873, p. 537).

Local Action.—In my experiments made with the drug applied locally I have found that it causes a progressive loss of functional power of nerves and striated muscles.

Dr. Duckworth (*loc. cit.*) further states that it causes an eruption when applied upon the sound skin.

Action on the Circulatory System.—Dr. D'Ornellas (*loc. cit.*) states that emetia neither depresses nor increases the blood-force; and in two experiments made by Dr. Duckworth (*loc. cit.*) the alkaloid failed to influence the circulation until very late in the poisoning. In experiments made by myself I have noticed that after injections of very small doses of the drug into the jugular vein, there is a slight rise followed by a sudden fall in the arterial pressure.

Exp. I.—Rabbit; canula in left carotid; injected one-eighth grain into right jugular.

TIME.	PRESSURE.	
12.52	60	Normal.
12.52.5		Injected.
12.52.10	63	
12.52.30	30	

TIME. PRESSURE.

12.53.30	28	
12.55	18	
12.55.30		Animal dead.

This experiment was repeated several times, with precisely similar results.

It is evident that emetia decreases the arterial pressure.

To determine whether or not this fall in the pressure is due to irritation of the pneumogastric centres, trunks, or peripheral terminations in the heart, I made the following experiment:

Exp. II.—Rabbit; vagi divided; canula in left carotid; injected one thirty-second grain into right jugular.

TIME.	PRESSURE.	
11.29.45	47	
11.30		Injected.
11.30.10	48	
11.30.15	32	
11.30.20	18	
11.31	18	

A repetition of this experiment gave identical results. The same fall of pressure occurred as when the vagi are not divided. The next thing was to determine whether or not this drug still produces a decrease in pressure after section of the spinal cord above the origin of the splanchnic nerves.

Exp. III.—Rabbit; cord cut at fifth cervical vertebra; canula in left carotid; injected one thirty-second grain into right jugular.

TIME.	PRESSURE.	
2.34.50	73	
2.34.55		Injected.
2.35.3	71	
2.35.10	55	
2.35.30	22	
2.36		Dead.

It is evident from these experiments that the fall in the arterial pressure is due to a direct action on the heart, *i.e.*, to cardiac paralysis. This conclusion is further confirmed by the following experiment made on a frog, in which the drug was placed directly on the heart.

Exp. IV.—Frog; exposed the heart and placed a solution (gr. iv to 3i) directly upon it.

TIME.	PULSE.	
2.7	68	
2.8		Solution placed on heart.
2.11	41	
2.17	10	
2.25		Heart ceased beating, arrested in diastole, and no longer responds to irritants.

* Abstract of a prize inaugural thesis, University of Pennsylvania.

Pulse.—Dr. Duckworth (*loc. cit.*) states that in emetia-poisoning the pulse is not constantly affected.

In several experiments made by myself, I have found that the pulse is first increased and then becomes very slow and irregular. As the diminution in the number of pulsations occurs after section of the vagi and spinal cord, the decrease must be due to a direct action on the heart.

ACTION ON THE INHIBITORY NERVES.

When the pneumogastrics of a healthy adult animal are irritated by means of a strong induced current, inhibition—*i.e.*, complete cessation of the beat of the heart—occurs. Accompanying this cessation of the heart's beat there is a decided fall in the arterial pressure. It has been shown that certain drugs, especially atropine, prevent this inhibition by paralyzing the inhibitory fibres of the pneumogastrics. I have found that emetia has a similar effect, as shown by the following experiments.

Exp. V.—On a rabbit; canula in left carotid; vagi previously cut; injection of fluid extract of ipecac into right jugular.

TIME.	PRESSURE.	PULSE IN 10 SEC.	REMARKS.
12.30	70	24	
12.30.5	54	No pulse.	Irritation of vagi.
12.30.10	48	"	Irritation ceased.
12.30.15	70	16	
12.30.20	77	20	Injected 5 \mathcal{M} fluid ext.
12.30.30	76	21	
12.30.40	71	No pulse.	Irritation of vagi.
12.30.45	52	"	" "
12.30.50	50	"	Irritation ceased.
12.30.55	73	16	
12.31	63	20	
12.32	63	26	
12.32.25	63	26	Injected 5 \mathcal{M} fluid extract.
12.32.40	68	No pulse.	Irritation of vagi.
12.32.45	50	"	Irritation ceased.
12.32.50	70	18	
12.33	57	16	
12.34	57	20	
12.34.5	60		Injected 5 \mathcal{M} fluid extract.
12.34.30	67	Pulse continued unable to count.	Irritation of vagi.
12.34.35	57	Pulse continued unable to count.	Irritation ceased.
12.35	64	14	

Exp. VI.—On a rabbit; canula in left carotid; injection of fluid extract of ipecac into right jugular.

TIME.	PRESSURE.	PULSE IN 10 SEC.	REMARKS.
1.15	80	24	Vagi cut; normal.
1.15.10			Irritation of vagi.
1.15.15	51	No pulse.	" "
1.15.20	49	"	Irritation ceased.
1.15.25	83	16	
1.15.30	85	20	Injected 5 \mathcal{M} fluid extract.
1.15.35	85	21	Irritation of vagi.
1.15.40	73	No pulse.	Irritation ceased.
1.15.45	82	12	
1.15.50	67	No pulse.	Irritation of vagi.
1.16	52	8	Irritation ceased.
1.17	55	16	
1.17.10	60	14	Irritation of vagi.
1.17.25	60	14	" "
1.17.30	60	14	Injected 5 \mathcal{M} fluid extract.
1.17.35	60	14	
1.17.50	60	14	Irritation of vagi.
1.18	60	14	Irritation ceased.

It will be seen in the above experiments that the irritation of the pneumogastrics, after injection of ipecac, no longer produces cardiac inhibition, and the effect on the blood-pressure gradually diminishes also. From this I must conclude that ipecac paralyzes the inhibitory fibres of the pneumogastrics.

ACTION ON THE NERVOUS SYSTEM.

On the Brain.—It has been announced by Magendie (*Nouveaux Médicaments*, 1835) that emetia causes sleep; and it has been further stated by Polichromi (*L'Ipecacuanha*) that the drug in large doses kills by its action on the brain.

In several of my experiments sleep was produced by the use of the drug. In several instances in mammals I have observed convulsions following the use of the emetia.

Exp. VII.—Mouse; injected one-eighth grain into abdomen at 2.27; violent convulsions at 2.28½.

Exp. VIII.—Mouse; cord cut in lower dorsal region; injected one-eighth grain of emetia into abdomen at 9.45½; convulsion both anterior and posterior at 9.46.

This experiment proves that the convulsions were of spinal origin.

Gastro-Intestinal Action.—In small doses emetia causes decided gastro-intestinal symptoms. In larger doses death ensues from the violent enteritis which it provokes. According to D'Ornellas (*loc. cit.*) and Duckworth (*loc. cit.*), emetia produces vomiting much more slowly when thrown into the veins than when given by the stomach. The experiments of Duck-

worth, D'Ornellas, and Pecholier show that vomiting follows the hypodermic use of the drug; they also state that no vomiting occurs after section of the pneumogastriacs. Dr. Polichromi (*loc. cit.*) further states that when the drug is given hypodermically, vomiting occurs the instant the drug is eliminated by the gastric mucous membrane.

That emetia has no direct vomitive action upon the central nervous system was shown by injecting the drug into the carotid artery: no immediate vomiting occurred.

That the drug causes vomiting when used hypodermically is shown by the following:

Exp. IX.—Small dog; injected at 11.54 one-fourth grain of emetia subcutaneously; vomiting at 12.50.

Exp. X.—Cat; vagi cut; introduced sixty minims fluid extract of ipecac into stomach at 3.58; violent attempts at vomiting at 4.5.

In the above experiment there was no emesis after section of the vagi, although there were violent attempts. Dr. Duckworth (*loc. cit.*) states that he is unable to offer any explanation of the absence of this most common symptom. It has been shown by numerous investigators that no vomiting can occur after section of the vagi, on account of the cesophageal sphincter being paralyzed.

I think it has been clearly shown in the previous experiments that the drug causes emesis by its irritant action on the mucous membrane of the stomach.

Action on the Respiratory System.—D'Ornellas and Duckworth state that emetia in toxic doses usually kills by arresting the respiration. I have noticed in many of my experiments that the effect of a dose of emetia is to cause a decrease in the number of respiratory movements, and if the dose be sufficiently large it causes their complete cessation; the heart continues to beat for a long time after the respirations have ceased. After section of the vagi the same phenomena were present, showing that the vagi do not participate in the slowing of the respiratory movements.

Action on the Muscular System.—The voluntary muscles escape unscathed in emetia-poisoning; they continue to respond to galvanism for a long time after death. The contractility of the muscles, however, may be destroyed by painting with a strong solution of the alkaloid. I have registered numerous muscle-curves

with Marey's myographion. To show that a long contact of emetia will destroy the contractility of a muscle, I submit the following:

Exp. XI.—The gastrocnemius muscle of a frog was prepared and painted with a solution of emetia (gr. iv to f3j).

TIME.	REMARKS.	HEIGHT OF CONTRACTION OF MUSCLE.
2	Irritation.	3
2.1	Painted.	
2.1.30	Irritation.	2½
2.4.30	"	1½
2.6.15	"	1

Absorption and Elimination.—That emetia is absorbed is beyond doubt, as I have been able to confirm the statement of Dr. Duckworth, that it is to be found in the urine of animals poisoned by it. Absorption takes place without regard to the manner in which the drug is introduced into the system, but when placed upon the sound skin absorption does not take place.

Emetia will produce vomiting when applied to a blistered surface, after removing the cuticle (U. S. Dispensatory, p. 440).

Elimination.—The following experiment proves that the drug is eliminated by the urine.

Exp. XII.—Rabbit; poisoned by emetia; the bladder was removed, and the urine treated as follows. A small quantity of nitric acid was added to coagulate any albumen; to this was added a solution of tannic acid, the aqua ammoniæ, which gave a red color, finally turning to an orange.

Action on the Glandular System.—One of the effects of a large dose of emetia in a number of my experiments was to increase the secretion of the salivary glands. This increase is due to a local irritant action, as it only occurs when the drug is given by the mouth.

Urinary Secretion.—The drug apparently does not increase the quantity of the urine; it however modifies the quality, as I as well as Duckworth (*loc. cit.*) have found that albumen occurs in the urine of animals poisoned by it.

Action on the Liver.—Pecholier (*loc. cit.*) affirms that in animals killed by ipecac no hepatic glucose can be found.

In my experiments I have not been able to confirm this assertion of Pecholier, as is shown by the following:

Exp. XIII.—Cat; killed with fluid extract of ipecac. The liver was removed and examined for glucose after the method described by Brunton, which is as follows. The liver was

washed, macerated, and thrown into boiling water containing a small percentage of acetic acid to coagulate the albumen. The acetic acid was neutralized by adding a solution of caustic potassa. The whole was then thrown upon a filter, and the filtrate tested by both Heller's and Trommer's tests, with unmistakable evidence of the presence of glucose.

Action on the Blood.—Unlike some alkaloïds, emetia has no direct action on the blood-corpuscles. To observe this, I experimented as follows:

Exp. XIV.—A drop of blood was placed on a glass slide under a microscope, and a small quantity of emetia was added, but no effect was observed.

Action on the Pupil.—Dr. Polichromi (*loc. cit.*) states that emetia dilates the pupil. My experiments do not agree with those of Polichromi, as I have never observed any effect upon the pupil whatever, either when the drug is applied locally or introduced into the general circulation.

CONCLUSIONS.

1. When locally applied, emetia produces a progressive loss of functional power of the nerves and striated muscles. If such contact be continued even but for a short time, the tissues do not recover.

When directly applied to the brain and spinal cord, no action is manifest.

2. The fall in the arterial pressure produced by an injection of emetia is caused by the direct action of the drug upon the heart,—*i.e.*, by cardiac paralysis.

3. The movements of the heart are first accelerated and afterwards diminished by the action of emetia; the diminution in the frequency of the heart's movements is due to cardiac paralysis.

4. Emetia paralyzes the cardiac inhibitory fibres of the pneumogastriacs.

5. The sleep and coma produced by the drug are due to its action on the brain.

6. The emetia convulsions are spinal in their origin. The abolition of reflex activity is also due to the action on the spinal cord.

7. The vomiting caused by emetia is due to a local action on the stomach.

8. The drug produces slowing of the respiratory movements; the slowing still occurs after the pneumogastriacs are cut.

9. The voluntary muscles escape unscathed in emetia-poisoning; their contractility, however, may be destroyed by painting with a solution of the alkaloid.

10. Emetia is absorbed and is eliminated unchanged by the kidneys; it is also eliminated by the gastro-intestinal mucous membrane.

11. The salivation induced by emetia is due to its local action on the nerves in the mouth.

The introduction of emetia into the stomach subcutaneously or into a vein is followed by albuminuria.

Glucose is found in the liver after poisoning by ipecac.

12. Emetia has no direct action on the blood.

13. Emetia has no action on the pupil, either when the drug is applied locally or introduced into the general circulation.

PHYSIOLOGICAL LABORATORY OF THE UNIVERSITY OF PENNSYLVANIA, March, 1878.

ON SOLUTION OF IODINE IN OIL OF BITTER ALMONDS.

BY E. T. BLACKWELL, M.D.

THE want of a solution of iodine which shall not precipitate in the stomach, and especially of one which shall be easily miscible with oil, has been long felt. The French chemists, by a tedious process, made a solution in oil of sweet almonds; but it was liable to rancidity, while the large amount of the solvent necessary to be taken with each dose rendered it unacceptable.

The writer of this article, very early in his medical career, had his thoughts turned towards a more complete iodizing of cod-liver oil, thinking that the amount of iodine contained in this medicinal agent was too small to exert its full remedial power. Failing in his efforts to cause direct union, he gave up his attempt, but did not relinquish the idea.

Early in the year 1870, while engaged in pharmaceutical manipulations, he discovered the extreme solubility of iodine in the oil of bitter almonds. He was at that time ignorant of the reference in the United States Dispensatory* to Zeller, who speaks of this solubility as "slow and partial." His remark seems to have attracted no attention; yet the fact is a most valuable one, opening the way to many combinations of great importance to therapeutists.

* Art. Ol. Amygd. Amar., p. 589.

On placing together powdered iodine and the oil of bitter almonds, the violet color of the former is immediately, and with great intensity, imparted to the latter; and if they are allowed to remain in contact for a rather long period,—two months or more,—they unite in the proportion of one of iodine to three of the oil. This solution mixes freely with oils, fats, glycerin, alcohol, ethers, and fluid extracts of vegetable matter, and is alone a most eligible concentrated preparation for application to parts where a thin fluid is liable to be swept away, as in the throat, the nares, vagina and uterus, and where, at best, only a small amount can be made to adhere. As the physiological rather than the chemical action is desirable in a topical application of iodine, this preparation merits acceptance, because it leaves the tissue soft and in good condition for absorption.

*Formula for Iodized Oil of Bitter Almonds.**

R Pulvis iodinii, ʒj;

Olei amygdalæ amaræ, ʒj.

Mix, and shake occasionally for two months.

This may be combined with many other remedies for external application, to meet many different indications. If the purpose be to induce resolution of swollen glands, soap liniment may be chosen; if to produce counter-irritation or blistering, cantharidal collodion or croton oil would be suitable. For general external use, in which an emollient, unstaining, and less concentrated article is desirable, the iodized oil of almonds with glycerin fulfils all the indications, leaving the skin after its application supple and without stain. This is beyond comparison superior to "iodine paint," which corrugates the skin and hinders absorption; or to the greasy, uncleanly ointment.

Formula for Iodized Glycerin.

R Iodized oil of bitter almonds, ʒj;†
Glycerin, ʒvij.—M.

This is a most elegant form for external use, and may, properly diluted, be administered internally, in doses of two drops, = $\frac{1}{10}$ gr. of iodine and $\frac{1}{2}$ oil of bitter almonds.

The system is said to be best affected by iodine in minute doses and in exceedingly dilute form, as in the natural mineral waters, all excess of the remedy being carried off by the emunctories. To meet this view an iodized water may be made:

R Iodized glycerin, ʒj;‡
Water, Oj.—M.

This contains about the amount of iodine

found in four pints of the water of Iodine Spring, Saratoga,‡ and has about the strength of Lugol's iodine lotion.||

A tablespoonful, containing $\frac{1}{20}$ gr. of iodine and $\frac{1}{2}$ gr. of oil of bitter almonds, may be taken, diluted at pleasure, for a dose.

It is, however, to the iodizing more completely than it exists in nature of cod-liver oil, that the efforts of physicians and pharmacists have been bent,—all feeling that the therapeutic value of this remedy would be greatly enhanced by combination with a larger amount of iodine. The discovery of the solubility of the latter substance in oil of bitter almonds removes all the difficulty. We have only to add the iodized oil to the cod-liver oil, and, on agitation, complete and permanent union takes place. I may add, what is well known, that a proprietary article, claiming to be composed of cod-liver oil, iodine, bromine, and phosphorus, has been long before the public, and has received quasi-recognition in the United States Dispensatory, and the endorsement of many physicians. This compound is, however, vended at a very high price; its working formula is unknown to the writer and, he presumes, to the general pharmacist. The profession, therefore, may not be averse to a formula which may be filled by any physician or druggist. The following form I have used for several years in making

Iodized Cod-Liver Oil.

R Iodized oil of bitter almonds, gr. xvi;
Cod-liver oil, Oj.

Mix, and shake. A teaspoonful, containing $\frac{1}{2}$ gr. of iodine and $\frac{1}{10}$ gr. of oil of bitter almonds, may be taken for a dose.

If thirty grains of the iodized oil of bitter almonds, two drachms of phosphorated cod-liver oil,¶ and one grain of bromine, be used to the pint of cod-liver oil, the ingredients and proportions of Fougere** will be had, plus twenty-four grains of oil of bitter almonds.

Very efficient combinations may be made by uniting the iodized almond oil with alternative fluid extracts and potassic iodide:

R Pot. iodidi, ʒii;
Ol. amygdalæ iod., gr. iv;
Ext. stillingiæ fl., ʒiij;
Syr. helianthem, ʒviiss.

M. Dose, c. m. ter in die.

I may add that I have not discovered

‡ Analysis of Emmons.

¶ Art. Iodinium, U. S. D., p. 489.

¶ U. S. D., p. 604.

** One per cent.

* Containing twenty per cent. of iodine.

† = 15 gr. iodine.

‡ = 2 gr. iodine.

the influence of bitter-almond oil as a factor in the various prescriptions used by me, except as a soothing remedy. I commend them with great confidence to the profession, believing they will meet with hearty acceptance and be greatly useful.

CASE OF TRACHEOTOMY FOR PSEUDO-MEMBRANOUS CROUP.

BY W. HOBSON HEATH, M.D.,

Resident Physician Philadelphia Hospital, Ex-Resident University Hospital.

JOHN M., aged 22 months, a fine, rugged child, of healthy parents, was admitted into the Children's Asylum of this hospital in consequence of poverty. Mother said it had a slight cold for one or two weeks, but there was no evidence of it on admission. Eight days after, during which time it was perfectly well and lively, a slight, croupy cough was noticed by the nurse during the night, but no hoarseness or other symptoms indicating any serious trouble were present. It slept well, and continued well during the next day until evening, when the cough recurred, with increased croupiness, some dyspnoea and fever, but no pulmonary implication. Notwithstanding prompt and energetic treatment, which consisted of calomel and ipecac, and emetics, no impression was made upon the disease, and all the characteristic symptoms of true croup developed in their most aggravated form and with remarkable rapidity. Inspiration and expiration were both affected, and accompanied by a loud, harsh noise, and towards morning became terribly labored, with sinking of the epigastrium and supra-sternal space with each effort. The cough was hard and ringing, but there was little or no expectoration. Temperature rose to 103° , with rapid, full pulse, and flushed, anxious face. A fragment of membrane expelled confirmed the diagnosis of pseudo-membranous croup.

As the treatment availed nothing, and the child was rapidly becoming worse, upon consultation with my colleague I determined to perform tracheotomy, before the condition of the child should become so bad that no hope at all could be entertained. The operation, without ether, was devoid of difficulty, except the heaving of the neck in the labored breathing and the large, over-distended inferior thyroid veins. These vessels lay immediately in the way, were very large, and gave some little trouble in getting them one side. When the trachea was exposed just below the isthmus of the thyroid, the breathing suddenly and unexpectedly stopped: I instantly made an opening, applied my lips to the orifice, and removed a good quantity of tenacious mucus and membrane, which prevented the air from entering (and which could not be removed in any other way, respiration having

ceased), set up artificial respiration, keeping the opening apart with a slender pair of uterine forceps, when in a few minutes a gasp or two came, and the breathing slowly recurred, when the tube was inserted. The result was most gratifying, the child being dead to all appearances when the trachea was incised. There was no hemorrhage, no vessel of any size having been cut. The treatment then ordered was chlorate of potash and muriate of ammonia, the room kept at 82° , and lime-water sprays.

After the operation, contrary to expectation from the sudden apparent termination of the case, the patient did remarkably well; so much so that a favorable prognosis was inclined to by some. The tube permitted free breathing, mucus and some membrane were expelled, nourishment was taken, and a quiet sleep followed.

Before operation, pulse 196, respiration 48; one hour after operation, pulse 136, respiration 40, temperature 100° .

This improvement continued with slight variations in the pulse the entire day, during which time he was bright and took nourishment and medicine well.

7.30 P.M.—Pulse, 148; respiration, 36; temperature, $102\frac{1}{2}^{\circ}$.

No implication of lungs; vesicular murmur clear. Some restlessness coming on, thought to be due to presence of tube.

During the night was very restless; sleep only at short intervals, and induced by chloral; otherwise doing well, only bad sign being the increased fever.

6.30 A.M.—Pulse, 190; respiration, 48; temperature, $102\frac{3}{4}^{\circ}$.

Lungs becoming congested; child throwing himself all over the bed.

10.30 A.M.—Pulse, 160; respiration, 54; temperature, 102° .

12.30 P.M.—Pulse, 180; respiration, 60; temperature, 103° .

2 P.M.—Pulse, 184; respiration, 64; temperature, 102° .

2.30 P.M.—Death in convulsions twenty-eight hours after operation.

Post-mortem, twenty-four hours after death, showed the entire trouble to have been confined to the larynx and upper portion of the trachea. The lungs were congested, but nowhere inflamed.

From the point of incision downward there was some mucus and injection of the mucous membrane, but no false membrane, showing that the tube kept everything clear. Above the tube the trachea and larynx were filled with a plug of coagulable exudation, firmly adherent, and completely occluding the glottis. The membrane was very tough and adherent, the mucous membrane beneath highly injected, but there was no apparent ulceration. Pharynx not involved.

This case, like all other cases of trache-

otomy for croup in this hospital, ended fatally, though life was prolonged beyond the average of the cases here, and a chance given for recovery.

The case presented many interesting points. The invasion was sudden and rapid, death occurring in less than thirty-six hours. Writers state that such cases are extremely rare.

The attack was upon the night of the first cool day after the late thermal wave, when the change of temperature was very great and very sudden, with high wind; showing the influence of such changes in the causation of the malady.

The resuscitation by artificial means was an example of the value and importance of persisting in the attempt, even though life be apparently gone. Many present in this instance thought the child beyond hope.

There was a sign present in this case which I have before noticed, and which has also been observed by others in this hospital, the value of which I do not know, never having seen any mention of it. These children all, from the earliest part of the attack, kept chewing an imaginary object in their mouths, puckering their lips, and frequently swallowing.

The post-mortem showed the inflammation to have been a very violent one.

Dr. Formad kindly examined with me several sections of the membrane. It showed a large reticulated mass enclosing in its interstices leucocytes and compound granular cells. The reticulated structure was very transparent, of a hyaline character in some parts, while in other parts it was not to be distinguished from embryonic connective tissue. An interesting and disputed point, clearly shown by these sections, was that the exudation was formed principally beneath the epithelium and basement membrane, and not thrown out upon it. This is contrary to the views held by many pathologists; but Thierfelder, of Leipsic, in his *Atlas of Pathological Histology*, says that the origin of the membrane is beneath the epithelium, which is itself destroyed. No spores were found in the membrane. This, of course, is not evidence of the identity of diphtheria and croup, as held by many observers, but it is additional evidence that the pathological lesions are not entirely different in each affection, and that some cases partake of the nature of diphtheria in their lesions, with a clear clinical history of croup.

NOTES OF HOSPITAL PRACTICE.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINIC OF PROF. A. JACOBI, FOR DISEASES OF CHILDREN.

(Reported by P. BRYNBERG PORTER, M.D.)

SUPPURATIVE BURSITIS.

GENTLEMEN,—You will doubtless remember this girl (aged 11 years), with trouble about the knee, who was here some little time ago, and in whom I made an incision into the bursa under the ligamentum patellæ, in order to give vent to the pus that had accumulated there. This was followed by some inflammatory action, giving rise to an adhesive process which is still going on, and to-day I find that the probe passes about an inch into the bursal cavity, showing that the sac is about one-quarter or one-third closed. It may possibly take a long time for complete adhesion to take place between the walls of the sac, and should this fail to occur it may be necessary to apply pure carbolic acid or some other irritant to the parts. In the mean while the suppuration is a very benign one, and all that we have to do, for the present at least, is to allow free drainage for the pus, and to inject the sac several times a day with a weak solution of carbolic acid. The case is certainly doing quite as well as we can expect.

PARALYSIS AND CHOREA RESULTING FROM EMBOLISM.

This girl, aged 14, has also been before us previously. Somewhat more than two months ago her mother brought her here, with the following history. Three weeks before that time she had noticed that she began to "act queer," as she expressed it. There were irregular movements of the head and left arm, and presently she found that she could not hold her fork in eating. Previously she had always been healthy, and the family history was also good. She had begun to menstruate about eight months before, but the flow was usually rather scanty. She suffered considerably from headache in the right temporal and parietal regions, and her face was drawn somewhat to one side. On examination, it was found that the uvula seemed to point towards the right, while the tongue, when extended, was directed rather to the left. Her intellect was good. She had no palpitation of the heart, and had never had rheumatism,

as far as could be ascertained. Her bowels were constipated, and she had lost a considerable amount of flesh. The treatment ordered consisted in the application of ice to the right side of the head, and the administration of cathartics, ergot, and digitalis. Three weeks later, Fowler's solution was substituted for the ergot.

You perceive that we meet in this case with two sets of symptoms, one convulsive in character, and the other paralytic; in other words, that it is a case partly of chorea minor and partly of paralysis. It has not been stated in the history, but it is a fact that the lower extremity upon the right side was affected, as well as the upper. In regard to the latter, it was found that the grasp of the right hand was much more feeble than that of the left. It would not do to assume here that there are two distinct forms of disease present. Both the sets of symptoms are undoubtedly due to the same cause, viz., valvular disease of the heart, giving rise to cerebral embolism, since an examination of the heart reveals the existence of a mitral systolic murmur. The larger emboli in the vessels of the brain no doubt occasioned the partial hemiplegia, and the smaller ones the choreic symptoms. The medication which has been mentioned was not, of course, resorted to with any idea of getting rid of the embolism, as it is beyond our power to affect that. The digitalis was given for the purpose of strengthening and regulating the action of the heart, and the ergot with the idea of preventing encephalitis resulting, or, if it had already commenced, of diminishing its severity.

To-day we find that there has been considerable improvement as regards the paralysis, but that the chorea remains much the same. The girl seems to have recovered almost perfect use of the right lower extremity, but the arm is still considerably affected. She has much less power in it than in the left one, and she complains of some numbness of the fingers. In such cases it is the ordinary rule for the trouble to clear up in the lower limb first. The tongue seems now to be protruded in the median line, but the uvula is still drawn slightly to one side. She does not stammer at all in her speech. The paralysis being upon the right side of the body all the way up, we should naturally expect the lesion producing it to be situated in the right hemisphere of the brain, somewhere anterior to the pons varolii.

If there is no increase of temperature

above the normal at the present time, we may infer that there is probably no encephalitis going on; and here I would again impress upon you the great importance of always taking the temperature in the rectum (or the mouth), and not in the axilla, as is still too commonly the practice among medical men. In many cases of cerebral and spinal inflammation the thermometer placed in the axilla will show little or no increase of temperature, even when the case has progressed almost to a fatal issue; and in such cases a rise of a single degree, or perhaps of half a degree, is sometimes of the greatest significance. My assistant informs me that the rectal temperature in this case is now just a hundred, so that we need no longer be in apprehension of encephalitis. The treatment that I now propose will be from twenty to thirty grains of the iodide of sodium and two or three drachms of the infusion of digitalis during the twenty-four hours. I prefer the iodide of sodium to iodide of potassium, on account of its being rather more grateful to the stomach; and the digitalis is, of course, to regulate the heart's action. In addition, the girl should have bromide of potassium at night if she does not sleep well. Under this simple treatment I think we may look for a good recovery. I find that I have neglected to mention that it may now perhaps be well to commence the use of electricity upon the affected arm, and for this purpose I would recommend that the faradaic current should be applied to the individual muscles.

CHRONIC PHARYNGITIS.—The following treatment of Pippingsköld for chronic pharyngitis will at least commend itself for its simplicity. In case of pharyngeal catarrh, with extension to the mucous membrane of the general air-passage, he recommends methodical and thorough gargling, morning and evening, with water at a temperature of 15° to 20° C. This to be continued for months, or, under certain circumstances, for a whole year; at least to be recommenced as soon as the symptoms of the catarrh shall begin again to annoy the patient. Two glasses full of water at the above temperature—used at each gargling—relieve hyperæmia, and restore tone to the relaxed vessels of the soft palate. Ice-cold water, in less quantity, will reduce the temperature of the parts more quickly, but causes a powerful reaction, with increased hyperæmia, and can easily therefore do more harm than good. The writer recommends this remedy likewise in granular pharyngitis. —*N. Y. Med. Journal*, July, 1878.

TRANSLATIONS.

LOCAL ACTION OF VARIOUS MEDICINAL SUBSTANCES UPON THE TEETH.—Maurel (*Bull. Gén. de Thérap.*, June 30, 1878) has made a number of experiments to ascertain exactly what effect is exerted upon healthy and partially-decayed human teeth by various solutions. His results are as follows. 1. Sulphate of copper gives a dull yellow color to the healthy enamel; it appears to attack the cementum, and gives it, as well as the dentine, a persistent green color, which appears through the enamel. 2. Chlorate of potassium is without action upon the teeth. 3. Nitrate of silver does not destroy the structure of the teeth, but it gives them a black metallic lustre. 4. Crystallized alum exercises a very destructive action upon the enamel. Its action on the dentine and the cementum is not constant, and when exercised is only feeble, the cementum being less altered than the dentine. 5. Alcohol is without action on the enamel of the teeth. 6. Tincture of benzoin, while exercising no effect upon the structure of the dental tissues, does in time color the cementum and dentine brown. 7. Tincture of mint is without action on the hard tissues of the teeth. 8. Tincture of cinchona, while it has no effect on the structure of the teeth, colors the roots brown. 9. Cologne has no effect on the teeth. 10. Tobacco in solution has no effect upon the structure of the teeth, which, however, it colors a more or less dark brown. The enamel is least affected by it. x.

ALTERATION IN THE GREAT SYMPATHETIC CONNECTED WITH ECZEMA.—Dr. Marcacci (*Le Mouvement Méd.*, 1878, p. 193; from *L'Imparziale*) gives the case of a man of seventy, who, having been exposed for some hours to cold and rain, began to suffer weight and pain in the head. A little later the scalp became covered with a furfuraceous desquamation, which soon extended to the face, the axillæ, the chest, and finally involved the entire body. There were no signs of alteration in any of the viscera, no indication of constitutional disease. The diagnosis was therefore made of diffuse idiopathic eczema.

A little more than two months later the patient died of pneumonia of the right side. Post-mortem examination, which was made at the laboratory of pathological anatomy in Florence, showed hyperæmia

of the superior cervical and cœliac ganglia, noticeable even by the naked eye. Microscopic sections showed still more markedly the congested condition of these ganglia. A great number of nuclei could be seen; the nervous cellules were compressed by the lateral pressure of the nuclear masses, and were cloudy. Finally a granular pigment occupied the intercellular spaces in great abundance. Up to the present time, says the *Archivo Italiano per le Malattie nervose*, alterations of the nervous system in connection with diseases of the skin have always been found to be seated in the encephalo-spinal centres, or on the peripheral nerves proceeding from them. Dr. Marcacci's case may therefore be regarded as entirely novel, since it shows lesions of the sympathetic similar in every respect to those found heretofore in analogous cases in the spinal ganglia. x.

AMAUROSIS FOLLOWING DENTAL DISEASE.—Sirletti (*Le Mouvement Méd.*, 1878, p. 193; from *Arch. Clin. Ital. dei Med. Condotti*) reports the case of an old man attacked suddenly with hemeralopia, without any previous enfeeblement of vision. Knowing that dental troubles sometimes cause endo-ocular hyperæmia and amaurosis through the ophthalmic ganglion, S. inquired which of the patient's teeth were decayed. He found that for some time he had suffered severe pain in the upper canines, of which the crown was gone. On examination, a fistulous cavity, with intra- and extra-alveolar periostitis, was found in the root of each canine. These teeth having been extracted, the patient began to be able to distinguish light from darkness almost immediately, and by the end of six days his sight was completely restored. x.

APHORISMS ON CANCER.—F. Esmarch (*Chl. f. Chir.*, No. 25, 1878; from *Arch. f. Klin. Chir.*) relates a series of four cases of atheroma of the scalp which suddenly took a malignant course. He also asserts that psoriasis linguæ often goes on to cancerous ulceration, and in addition brings forward a number of cases in which scars, and particularly the scars of lupus, developed carcinoma. He concludes by mentioning cases in which cancerous growths were developed in old leg-ulcers. Esmarch thinks a certain constitutional taint or dyscrasia is present in cases of this kind. He has often observed scrofula in the children of syphilitic parents, and has also

noticed sarcoma in many members of families in which a syphilitic taint was existent. In other families, where certain growths seemed hereditary, no taint of this kind could be ascertained. With regard to treatment, E. naturally speaks in favor of operation at the earliest possible moment. In desperate cases, where an operation cannot be performed, E. has had good results from the use of arsenic in large doses. As an escharotic, combined with morphia, it has also done him good service. He usually keeps his patients upon Beneke's food (the largest possible proportion of albumen and phosphate of calcium). Electrolysis Esmarch has only found successful in one case. On the other hand, he has seen a number of sarcoma-like tumors, and apparently carcinomatous tumors, cured by the administration of iodide of potassium. x.

PEMPHIGUS VAGINÆ. — Kleinwachter (*Cbl. f. Chir.*, 1878, p. 392; from *Präger Med. Wochens.*) gives the following case. The patient had suffered from pemphigus, especially of the leg, for three years, in spite of every kind of treatment. The mucous membrane of the vagina was laid bare of its epithelium in numerous small patches, and bled easily upon contact; on many of these patches a thin, sometimes rumpled skin could be observed. The intact portions of the mucous membrane were reddened, and poured out a catarrhal secretion. The upper third of the vagina was particularly affected. About the vulva six or eight distinct bullæ could be seen. Astringent injections were ordered, but the patient, who suffered no discomfort from the eruption, disappeared. x.

SYPHILIS OF THE EPIGLOTTIS. — According to Klemm (*Cbl. f. Chir.*, 1878, p. 386; from *Arch. der Heilk.*), this form of syphilitic disease is not so rare as is usually supposed. But the symptoms, especially at first, are so slight as easily to escape notice. In the earlier stage the epiglottis is reddened, swollen, and beset around the edge with small ulcers, the borders of which are sharply defined, and whose surface is covered with a dirty coating. Already, even in this stage, the affection resists treatment. Of the severer forms two are to be distinguished: first, the *hypertrophic* or chronic inflammatory form, in which the epiglottis, or a part of it, is changed to a thick, firm lump, which may be confounded with acute non-syphilitic processes; second, the

ulcerative form. This latter is more frequent. Here we find deep ulcers on the epiglottis, with thick, protuberant borders. Beginning usually at the edge, they consume a portion irregularly, and may eat away the whole epiglottis. The process may last for years, may involve the glottis, and lead to stenosis of the latter. At this point, however, infiltration and swelling are often found without ulceration, which is important in the diagnosis between this form of disease and tuberculosis. In the course of time, in syphilitic cases, certain characteristic crummings and contractions form in the epiglottis. Pain on swallowing is among the most noteworthy symptoms. Painfulness to the touch, however, is not noticed. In this respect the syphilitic disease differs from the tuberculous affection, where the epiglottis is very sensitive to the touch. Syphilis of the epiglottis appears only after some years from the initial lesion. It seems to occur more frequently among women than among men. It is remarkable that in these cases, even where the entire epiglottis has been lost, the patient can swallow without difficulty, and experiences no particular irritability of the glottis. Carcinoma and tuberculosis are alone to be distinguished from syphilis of the epiglottis, and here outside manifestations, history, etc., come into play, as local differences often cannot be made out. Treatment is both local and general. The disease is apt to be chronic. Klemm gives notes of seven cases. x.

IODOFORM. — Cuffer (*Cbl. f. Chirurgie*, 1878, p. 421; from *La France Méd.*) speaks highly of the anæsthetic effect of iodoform in fissure of the anus, hemorrhoids, pharyngeal troubles, ulcerative cancer, particularly of the face, mouth, mamma, and cervix uteri. This is aside from its alterative action upon ulcers. In disease of the pharynx and uterus, Cuffer employs the iodoform, in a ten per cent. ethereal solution, by means of a Richardson's spray-producer. x.

NECROSIS AND CARIES OF THE OS CALCIS. — Schinzing (*Cbl. f. Chirurgie*, 1878, p. 421; from *Arch. f. Klin. Chir.*) gives notes of four cases of central necrosis of the os calcis, in which a cure was obtained by enlarging the fistula and removing the necrosed bone. In addition, he gives a case where fracture of the os calcis by direct violence was followed by gangrene of the skin and necrosis of a small portion of

bone. Two other cases show that even where there is extensive caries of the tarsus and metatarsus the posterior process of the os calcis may remain sound, thus permitting Pirogoff's operation. S. has never seen a good result from Syme's operation. In Pirogoff's operation he has never divided the tendo Achillis. According to S., then, the diagnosis of ostitis of the os calcis having been made, and the exploratory incision in cases of centrally-situated disease having been practised, he has found in several cases the application of a red-hot iron advantageous and resulting in cure. In conclusion, Schinzinger gives the indications for the various methods of operating in the treatment of ostitis, caries, and necrosis of the os calcis. x.

ADENOID GROWTHS IN THE POSTERIOR NASO-PHARYNGEAL SPACE.—Justi, in one of Volkmann's "*Sammlung Klinischer Vorträge*" (No. 125, abst. in *Cbl. f. Med.*, 1878, p. 412), says that the so-called "tonsilla pharyngea," a follicular layer similar in structure to the tonsils, and extending from the roof of the pharynx to the lateral and the posterior walls and in part to the posterior nares, is a frequent seat of hyperplastic disease. This may not only cause serious symptoms in itself, but may give rise to still more important disorders by the involvement of the neighboring and circumscribing mucous membranes of the nose and ear. The diagnosis of these troubles may be made by the exploring finger reaching behind the velum, aided sometimes by the pharyngoscope, or by Zaufal's naso-pharyngeal speculum. Therapeutically, the best remedy is shaving or scraping away the growths by the sharp spoon. For this purpose Justi recommends either a spoon made of pliable steel, or one fitted with a ring by which it can be fixed at the end of the index finger so that the operation can be under the more exact control of the touch. x.

PROPYLAMINE IN CHOREA MINOR.—H. Pürckhauer (*Cbl. f. Med.*, 1878, p. 384; from *Aerzt. Intelligenzblatt*, 1878, No. 1) gives six cases of chorea in young persons where propylamine in daily doses of 1.0 to 1.25 grammes (℞ Propylamine, 1.0; aq. dest., 120.0; sp. menth. pip., 25.0. Sig., tablespoonful every hour) acted promptly and effectually. The disease was overcome within three to four days, even where it had subsisted for weeks. Whether beneficial results in the use of this agent are to

be expected chiefly in cases following rheumatism cannot yet be said; further experiments alone will show. x.

OPERATION FOR THE CURE OF IRREDUCIBLE LUXATION OF THE SHOULDER.—H. Burckhardt, in a case of dislocation of seven months' standing, made an incision down to the joint, cut the various adhesions, and reduced the luxation. Three months later, the hand could be placed on the opposite shoulder, and behind on the crest of the left ilium. The patient eats and arranges her hair with this hand. Only rotation outwards is minimal.—*Cbl. f. Chir.*, 1878, p. 376. x.

EXPERIMENTAL RESEARCHES ON THE INFLUENCE OF ARSENIC UPON THE ORGANISM.—C. Gies (*Cbl. f. Med.*, 1878, p. 378; from *Archiv f. Exp. Pathol.*) fed rabbits, chickens, and pigs for four months with gradually increasing doses of arsenious acid. The animals generally grew heavier and fatter; growth in the epiphyses and periosteum of the bones was quite marked, compact substance being observed in those parts which are usually spongy. In this respect the action of the arsenic was similar to that observed after the ingestion of phosphorus. One very curious circumstance observed by Gies was that animals kept in the same cage with those used for these experiments also became fat and showed consolidation of the bones. G. attributes this to the influence of the arsenic eliminated by the skin and lungs of the animals used for experiment. He also observed that animals kept in cages the floor of which was impregnated with arsenic showed the same symptoms. The above appearances were noted in young and growing animals. In adults, the cortical portion of the diaphyses was decidedly thickened, and at the same time fatty deposits took place in heart, liver, kidneys, and spleen. When the dose of arsenic was increased beyond a certain point, these changes in the osseous system were less prominent, the features of chronic arsenical poisoning being observed, such as inflammatory symptoms in the stomach, intense hyperæmia of the intestinal mucous membrane, as well as extreme fatty degeneration of the liver, spleen, kidneys, and heart. The young of pregnant rabbits thus treated came into the world dead, and showed the initial symptoms of the disturbances above noted, with decided hypertrophy of the thymus gland. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 31, 1878.

EDITORIAL.

MARVELS OF MICROSCOPY.

SCIENCE certainly is achieving wonders, and in few provinces greater than in the medico-legal study of the blood. At the rate the experts are travelling, we expect soon that a man will be considered an ignoramus who cannot tell from a blood-stain the race of the man it came from, the ailments he had suffered, the street-corner he was born on, the date of his christening, and the names of his forefathers and foremothers, back even unto the fourth generation. It is not long since the best microscopists swore that they could not tell the blood of man from that of other mammals; but our fellow-townsmen with his one-fiftieth put them to shame, and the far Southwest now overshadows him and all of us. Prof. Joseph Jones was given in a recent murder case pieces of blood-stained wood from the scene of the murder, also pieces of the clothing from the alleged murderer, and not only detected that the stains were due to the presence of human blood, but also that the blood in each case was probably from the same individual, because from one who was suffering from intermittent fever. Dr. Jones also testified as to the probability of his being able to distinguish the blood of a negro from that of a white man, but modestly acknowledged, "I cannot, however, speak positively with reference to the blood of the different races of mankind."

We are very much interested also in reading that Dr. Jones has confirmed a very important and curious physical fact in regard to the blood of dogs, which was

first discovered, we believe, by Prof. Taylor. Hereafter there should be no difficulty in recognizing the vital fluid of man's faithful companion, for certainly the blood-discs of no other mammals have an *average* diameter much *larger* than their *maximum* diameter. According to Prof. Taylor, "the average diameter [of the blood-corpuscles] is in the dog $\frac{1}{3540}$ (maximum $\frac{1}{4000}$, minimum $\frac{1}{8000}$)," (Principles and Practice of Medical Jurisprudence, 1st ed., p. 457, 2d ed., vol. i. p. 547); whilst we read in Dr. Jones's memoir, "the average diameter of the blood-corpuscles of the dog is about $\frac{1}{3540}$ of an inch," and a little farther on, "the blood-corpuscles of man and animals vary in their diameters within certain limits: thus, those of man may vary from $\frac{1}{3000}$ to $\frac{1}{4000}$; of the dog, from $\frac{1}{4000}$ to $\frac{1}{8000}$."

We congratulate Dr. Jones on the importance of his discoveries, but confess it all seems hardly fair to the accused. It is getting too much like shooting woodcock sitting. In spite of lawyers and judges and of all the other aids provided by the law, the murderer will soon stand no chance whatever. (For bill of particulars see the *New Orleans Medical and Surgical Journal* for August.)

ARMY MEDICAL SERVICE.

WHERE the pressure of competition is as great as it is at present in the ordinary ranks of the profession, the squeezing out into such desirable byways as the medical service of the United States would be expected to keep the crowding there almost even with that of the main avenue. The fact that there are eleven vacancies in the corps probably has its explanation in the old saying "that there is always plenty of room in the upper stories," the reputation of the army examination deterring the majority of would-be applicants, and its actual severities breaking down others. Whatever the cause may be, the fact of the vacancies

exists, and to fill them a board of army officers will be in session in New York during October and November. When these positions are filled, it will probably be a long time before another board is convened.

All candidates for appointment in the medical corps must apply to the Hon. Secretary of War for an invitation to appear before the Medical Examining Board. The application must be in the handwriting of the candidate, stating age and birthplace, and be accompanied by testimonials from professors of the college in which he graduated, or from other physicians in good repute. Candidates must be between twenty-one and twenty-eight years of age, and graduates of a medical college, having a thorough and complete course of medical education,—evidence of which must be submitted to the Board before examination.

SOME of our readers may at times, in the Catskill or other mountains, have listened to the reverberations of the echoes, as they took up a sudden loud sound and passed it from peak to peak in almost endless cadence. One of the pleasures of medical literature is, in tourist-like manner, to start an apt quotation or saying, and watch it pass from journal to journal, reaching, it may be, across the Atlantic and reverberating from continent to continent. Some of our readers may remember that some months since we quoted from Skinner's "Diseases of Women" concerning homœopathy as a soul-medicine. With grim pleasure we watched journal after journal with innocent joy quote this apt definition of homœopathy as an original discovery. We had thought that finally the echoes had died away; but no,—now they come from plague-threatened Louisville, and the editor of the *Clinic*, with commendable honesty, tells whence he draws his inspiration,—from the *British Medical Journal*.

THE Coffee-House Tavern Association which was inaugurated in London a little over a year since by a meeting held at the house of Mr. Ernest Hart, editor of the *British Medical Journal*, appears to be having most hopeful success. It has already twenty houses situated in different portions of London, which are achieving great good and at the same time earning a fair dividend upon the capital invested. Temperance taverns are already established upon a permanent paying basis at Liverpool, and the movement is spreading to the smaller English towns, as shown by the formation of associations and the opening of coffee-houses in Leamington, Bristol, etc.

CORRESPONDENCE.

BOSTON LETTER.

EDITOR PHILADELPHIA MEDICAL TIMES:

A LETTER on medical topics from Boston is not such a remarkably common occurrence. Why, I am utterly unable to say; for there are matters here of more interest than you have dreamed of in your Philadelphia philosophy,—Horatio, I might add.

The Boston medical men seem to possess a large share of that strong, sturdy conservatism which leads one to do things effectually enough, but quietly. They say little, they write less; but for good, square thinking, for downright hard work, allow me to recommend the Boston physician. In the matter of medical papers from the leading men, Boston is but too little known to the outside world. Opportunities for clinical study and laboratory work are large and unexceptionable. The men who control these opportunities are, many of them, men of profound medical learning, men of great acquisition, great in insight and diagnostic acumen; but they write too seldom, and, excepting in their private journals, make but little use of what is really a wealth of material. True, they are enthusiastically ready and eager to give their students the benefit of their clinical and pathological treasures. This is all very well. But it will be admitted that students, even of that high grade which sits under the teachings of the Harvard school, are hardly mature enough either to make immediate use of what is given them, or, at present, even appreciate its actual value. Such treasure should, much of it, be given to the medical mind of riper growth, not only in Boston, in Massachusetts, in New England, but to the medical world. This is

done here to such a limited extent that it fairly makes one sad. If I am the first publicly to protest against this rigid conservatism, this habit of secretiveness, this talent for silence, I trust I may not be the last. The truth is, we have great ability in Boston. We have men here the influence of whose opinions ought to be national. With some exceptions they are hardly known out of the State. If they were in New York or Philadelphia the effect of the medical atmosphere of those centres would incite them also to give to the world every new and helpful idea, striking case, or ingenious instrument which came into their minds or hands. The failure to do this in Boston is a wrong, a medical sin, which should have the daylight thrown upon it. The anxiety to rush into print, which, alas! is but too common among young physicians the world over, is of course reprehensible at their age, although, when it doesn't mean advertising, it often comes from the possession of the right kind of stuff. It is a fault to write an old story because one happens to have the material which others have used a thousand times. No one wishes to lumber up his shelves with books or pamphlets which, so far as new information goes, are mere blank paper. But every medical man who is less favored looks to those who stand in high places, who have large opportunity, who are earnest students, ripe and profound in thought and knowledge, for guidance, for conclusions and information concerning what to them—unless opened for them by the wise, the gifted, the possessor of the hidden secret—must necessarily be a sealed book. This is why I blame the medical men here, who see, who know, who understand, but who, except to their own circle, do not speak.

With great opportunity comes great responsibility. This conservatism (to use a word essentially kind) is a wrong not only to medicine at large, but its effect upon young men is dangerous. The leading medical minds in Boston have a strong local influence. The danger is lest the rising men follow in the footsteps of those whose great ability has won their respect. But I am glad to say that among these younger men there seems to be a desire to change this hermit-like quiescence for a broader and freer tone of thought. There are several of them, notably among the specialists, who are doing good work with the pen, and who are constantly striving to add what they can to the general sum of medical knowledge. But it is to be regretted that they find so few practical examples among the older men. Let me add that I am sometimes amazed at the apparent apathy of these maturer minds. Can it be possible that they wish, after they have passed away, to live only in legend? Can it be that they are unmindful of the sad truth that unless a man leaves behind him a monument erected by *his own hands* he is soon forgotten,—that

the place which has known him will know him no more forever? Perhaps they do not care to be remembered. Then, so let it be.

On the other hand, society work in Boston is most excellent. The meetings are attended by goodly numbers, and here the elders are as interested and as constant in their attendance as the younger men. This gives strong character to the discussions, especially because papers and reports of cases are not by any means confined to the younger portion of the members. These facts are worthy of imitation in other cities. Touching this matter, however, I shall have more to say in future letters.

In Boston there are two large hospitals,—the Massachusetts General and the City Hospital,—each of which is open to students of the Harvard school, and capital teaching is done in both. I mean hereafter to go into detail concerning these as well as several lesser institutions and retreats. In the present letter I will not attempt to enlarge upon hospitals or hospital work, but will confine myself to the mention of some interesting features in connection with operation and teaching at the Massachusetts General Hospital and the Harvard school. First, I wish to bring to your notice an operating-chair which for many years has been in constant use in the amphitheatre of this hospital. By the courtesy of Prof. Henry J. Bigelow, whose remarkable ingenuity is not so well known out of Boston as it should be, I have learned the history of this chair. It is Dr. Bigelow's invention, is known here as the "Bigelow operating-chair," and bears a silver plate to that effect with date of manufacture,—1854. Not long after the introduction of ether, in 1846, which, as you probably know, was first administered at this hospital by Dr. John C. Warren, grandfather of the present Dr. J. Collins Warren, the necessity arose of having a solid and steady chair which would meet the needs of operators and give security to the patient. A serious difficulty, too, was the syncope which sometimes occurred during etherization, and which called for some means of quickly changing the position of the patient from upright to horizontal, or even beyond this, so that the head might be lower than the heels. The result was Dr. Bigelow's chair. It is a solid, heavy, powerfully-built affair, yet easily moved and handsome in appearance. This particular chair was so thoroughly made, and so firmly braced and bolted, that, although it has been in almost daily use for nearly twenty-five years, it is as good as new. It is composed of three parts,—the back, the seat, and the leg-rest,—which move upon each other, are connected by heavy hinges and supported by a firm frame of mahogany, only the two front legs being provided with castors; so that, while it is immovable during an operation, it may be moved with ease simply by throwing its weight upon the two castors.

The back and leg-rest can be placed at any angle with the seat. The patient, already having been etherized in the "ether-room,"—about which more in another letter,—is placed in the chair, a broad woven strap attached by one end to the chair is brought across the lap of the patient and fastened on the opposite side by catching one of the holes in the leathern end of the strap over a round-headed brass bolt. A second strap is passed across the legs near the knees; the leg-rest is lifted and kept in place by a ratchet arrangement. The arms are confined either by thrusting them under the upper strap, or, if the patient be violent, by putting on leathern bracelets and buckling them to the body-strap. Thus secured, the patient is absolutely fettered. If his legs work loose and he begin to kick, you lift the leg-rest a few notches, and then, no matter how much he may struggle in the wildness of ether intoxication, he cannot move. Operations can therefore be done with much less than the usual assistance. At the top of the back of the chair is a head-rest which is moved up and down by a crank. The patient's head can thus be placed in any desired position. Now, if the surgeon wish to give the patient's trunk another angle, he has only to give a few quick turns to a crank placed on the right hand of the seat, and the three parts—back, seat, and leg-rest—are moved in unison, for the crank cants up the anterior portion of the seat; this lifts the leg-rest and lowers the back. By a contrary movement of the crank the reverse occurs, and the patient is more upright. Suppose now he faints: you have then only to pull up a long bolt placed at the back, and the lower end of which, as the back moves up or down, travels over a toothed quadrant below and on the left of the seat, and the back falls at once to the horizontal; the bolt on being released and forced by a spring snaps its lower end between the teeth of the quadrant and holds the back firmly. Suppose you wish to make the head still lower: give the seat-crank a turn or two and it is done. Everything moves perfectly. A child could manage the simple and ingenious machinery, and the chair is such a convenience—indeed, is such a necessity in surgical work in hospitals—that it certainly would be in general use but for the fact that notwithstanding its age it has never before been described in print. Conservatism again! Dr. Bigelow should be proud of this chair, and I believe he is. He probably knows why he has allowed twenty-five years to pass without having it made known in other cities. There are but three duplicates of the chair in existence. One is at the Boston City Hospital; a second is owned by Dr. Carleton, of Connecticut, and was constructed from drawings made by Mrs. Carleton, who accidentally saw the original; the third copy was recently presented to his hospital—the New York Hospital—by Dr.

Sands, who ordered a fac-simile after seeing the old chair here.

Appropos is an interesting anecdote. When the indefatigable Dom Pedro was in Boston he visited the Massachusetts General Hospital, and was much struck by this ingenious chair. Months afterwards he was dining with the Empress of Germany, who feels a lively interest in all hospital improvements. She probably asked Dom Pedro what he had seen that would be of use to Germany; at any rate he described to her the "Bigelow operating-chair." Before long Dr. Bigelow received a communication from some member of the Empress's household, asking, on her behalf, drawings and descriptions of his chair. He sent photographs which showed the chair in various positions: so that in all probability we may conclude there is by this time a fourth duplicate of a convenience which I trust you will urge upon the notice of the hospitals of Philadelphia. In 1854 the chair cost two hundred and fifty dollars. It now costs about double that sum.

My letter is already lengthy. I will then leave the description of the amphitheatre in which the chair stands until another occasion, when it may be mentioned in connection with the hospital adjoining.

I cannot do better than give you details of another and more recent invention of Dr. Bigelow's, and which, while not less convenient and ingenious than the chair, is perhaps a greater necessity. I refer to what is probably a perfect post-mortem table. The table which preceded this was considered a model, but by no sort of ingenuity heretofore brought to bear had the foul smells been overcome or driven away. To this end Dr. Bigelow set himself at work, and the result was a table which is so simple and so perfect that, like all simple things, it leads one at first view to say, "Anybody could have invented that table." And so anybody could,—just as the Spanish grandees knew how to set up the egg of Columbus,—after they had been told how. This table cost Dr. Bigelow a great deal of thought. His principles in inventing are, "(1) Get a clear idea of what you want; (2) put it into as many different shapes as you can; (3) reduce these to one, and let that one be utterly simple." The main object being the disposal of smells and foul gases, he determined in some way to set in action a series of draughts; and knowing that when a cadaver is opened odors and gases arise principally from the cavities of the trunk, he saw that the draught must not only act directly upon this region of the body, but must act *downwards*. The outcome is a table of solid iron, concave in shape, or rather converging and becoming gradually depressed towards the centre. It rests upon what can fairly be called a hopper, an open box precisely like a miller's hopper, also of iron and supported by a cylinder which revolves near the floor in

the head of a larger cylinder, into which the former telescopes far enough to rest upon a shoulder which supports it, and with it forms a joint. Table and hopper are one piece. The former is covered by a movable apron of zinc or oxidized copper which fits it closely. In the centre is an opening which corresponds to the exact position occupied by the trunk of a subject; it measures twenty-one by twenty-eight inches, and is covered by a snugly-fitting steel grating also concave in shape. The interior of the hopper and cylinder, which runs down into the cellar below, is lined with porcelain. Directly beneath the centre of the table, in the cellar below, is the trapped opening of a large drain, which receives all fluids and such small "gurry" as can escape through the meshes of the grating, the hopper and cylinder being even more capacious than the opening in the table. But what about odors and gases? The answer involves the description of the most ingenious feature of the whole. Some feet down the cylinder, and about half-way to the bottom, is a large opening which leads into a lateral trunk or shaft placed immediately below the floor of the post-mortem room. This shaft runs horizontally, and terminates twelve or fifteen feet away in a special chimney. To see this portion of the arrangement, you have to go down into the cellar. Ascending again, you enter a small room adjoining the autopsy apartment, and here observe a window let into the chimney into which the shaft enters, for the chimney passes up directly through this room. Opening the window, you find a series of ten gas-burners. You light them all and wait a few moments for the warming of the air in the chimney; then hold a lighted match or bit of burning paper over the opening in the necropsy table, and you are amazed to see with what force the flame is drawn *down* the hopper. And so it is with all gases and odors during the examination of a body, the air of the room remaining perfectly sweet and pure. This is Dr. Bigelow's simple and effectual contrivance. Could anything be more sensible or more perfect? A similar arrangement on a smaller scale is applied in an upright glass case with sliding sash, which encloses the sink and is always kept shut. The pathologist is making an examination, and wishes to cleanse and examine or temporarily lay aside a certain organ. He opens the case in which gas-burners are lighted, and which communicates with another flue. There is hot and cold water in this sink; the organ is washed or left there, all odors being carried away. It need not be mentioned that the table has every convenience in shape of contrivances for supplying an abundance of water, the chief being a small hose. The floor is asphalt, the wash-boards stone or marble or glass, I forget which. At any rate, the whole apartment is frequently deluged with water, which quickly runs off through

scuppers and gratings, all of which of course communicate with the main drain. There is a glass case near the table, in which all instruments are kept; there is a large ice-chest for preservation of specimens; there is a comfortable room devoted to the preparation of specimens and the microscopic work of the pathologist; and many other conveniences which would make the whole place dear to the heart of a specialist. In conclusion, this autopsy-room is an entire building, a neat brick structure, built for the professor of Pathology, Dr. R. H. Fitz, and his classes. The room is of moderate size, finished in chestnut; the seats are arranged in form of amphitheatre; light is supplied in great abundance; and, since Dr. Bigelow's ingenuity has disposed of all smells, the students are as comfortable here as they are in any other room. Dr. Fitz has won a reputation as teacher and pathologist. His interesting method of teaching must be reserved for another letter. H. O.

Boston, August 15, 1878.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MAY 9, 1878.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Biceps muscle filled with trichinæ. Presented by Dr. J. G. RICHARDSON.

I REGRET that the history of this case is so incomplete, although full enough to illustrate an important point in regard to trichiniasis, namely, the frequency with which it escapes detection.

The body from which this biceps muscle was removed was a subject upon one of the tables in the anatomical rooms of the University of Pennsylvania. In the course of their dissection, one of the class of students engaged upon it observed a peculiar dotted appearance in the pectoral muscles, and, calling the attention of Prof. Rothrock and Dr. B. F. Lautenbach to this condition, they at once discovered the parasite. No account of the case could be collected, but the man, apparently a German of some 40 or 50 years of age, well nourished, and the victim of an accident, had been subjected to a post-mortem examination, in which it is fair to presume that the trichinæ had not been detected. This shows that an autopsy does not always suffice to demonstrate the existence of trichiniasis, and suggests that a more thorough examination, including a microscopic one, of the muscles, especially of the pectoralis major, should *always* be made.

The parasites are here encysted in calcified cysts, and as this does not generally occur in less than two years, we may conclude that

the onset of the malady antedated that period, and may of course have preceded it by fifteen or twenty years.

This example of trichiniasis is, I believe, only the fifth that has been observed in Philadelphia, and it is a curious coincidence that in lecturing upon the prophylaxis of this malady, in my course on Hygiene, last spring, I urged our students almost exactly one year since to examine most carefully all the subjects upon the dissecting-room tables, as I thought it likely that cases of trichina disease not infrequently occurred and escaped detection, simply through want of scrutinizing observation. It also seems probable, as I then suggested, that the presence of these parasites in their encysted form may be a more or less direct cause of some chronic disturbance of function or nutrition as yet unrecognized.

Specimens from a case in which death had resulted from meningeal hemorrhage. Presented by Dr. WM. PEPPER.

I. W. P., æt. 76 years. Very strong constitution. Accustomed to drink large quantities of whisky and water daily. Began to fail in memory and mental power in 1876. Movements grew heavier and less powerful. Giddiness became marked in 1877, and continued with marked fluctuation till death. Hard of hearing, but no Ménière's disease. Occasional examination of urine at various times, up to within a few days of death, showed no albumen. Pulse regular. Radials hard. Extreme arcus senilis. No cardiac murmur. Aortic 2d accentuated. In July, 1877, he began to have occasional sudden falls, with unconsciousness, but without convulsions. These falls occurred a dozen times at irregular times, and were apparently caused by extreme vertigo. He usually fell backwards, striking the back of the head. All the symptoms had been growing more aggravated, when on May 1, 1878, he fell with unusual force, causing contusion of the scalp over the postero-inferior part of the left parietal bone. He was stunned for some time; then became restless, tossing the arms about, talking excitedly, and trying to leave the bed. This excitement was marked for two days, when it gradually became replaced by dullness; breathing grew puffing, and the pulse began to be slower, falling to 56. For the next four days stupor slowly deepened, with occasional spells of excitement, progressively growing less marked. The breathing gradually assumed a tidal character, which on the fifth day after the fall had become so pronounced that intervals between groups of respirations were thirty seconds long, the respirations being hurried, in groups of about 15, beginning with a faint breath, rising to loud, noisy stertor, and falling again to gentle breath before ceasing entirely for one of the long intervals. The pulse continued to fall steadily in frequency, remaining regular in rhythm: it was successively 50, 40, 32, 26, 20,

16, and finally, during the fifth and sixth days after the fall, remained at 12 or 13. For twenty-four hours before death, which occurred on the seventh day, the respirations grew regular and more frequent,—32 in a minute,—while the pulse continued at 12 in a minute. Unconsciousness was profound. While tidal breathing lasted, the pulse-rate was very slightly influenced by the breathing: during the respiratory periods the pulse rose to the rate of about 13, and during the intervals fell to the rate of about 11. Urine was passed involuntarily, and was not albuminous. Power of swallowing was retained till thirty-six hours before death, which occurred from increasing pulmonary congestion and œdema.

Post-mortem.—*Head.*—Skull very dense; diploë completely indurated. Extensive meningeal hemorrhage over left hemisphere; the clot, which was dark and soft, was chiefly seated over the posterior lobe, and had gravitated to the base, where it pressed on the tentorium. Very little, if any, blood had actually entered the cerebellar fossæ. The blood had evidently escaped from one of the meningeal veins, which presented a perforation of its walls, partly filled by a clot. There was no hemorrhage into the ventricles, or into the substance of the brain. The arteries at the base were highly atheromatous.

Thorax.—Lungs healthy, but deeply congested. The heart was surrounded by a great quantity of fat. The muscular tissue was friable and pale. Calcareous nodules were found at the base of the mitral and aortic leaflets, but the valves were competent. The aorta presented only small patches of atheroma. The coronary arteries presented a most intense degree of calcareous degeneration, being converted into rigid and brittle tubes.

Abdomen.—Liver fatty and slightly cirrhotic, and also presented nutmeg congestion. Kidneys congested; cortex presented small cysts, and also a moderate degree of interstitial disease, with some contraction and granulation.

There was a remarkable amount of soft yellow fat over the omentum, and around the pelvic viscera.

Report of the Committee on Morbid Growths.—“A microscopic examination of the specimens presented by Dr. Pepper.

“The kidney is found to have the intertubular connective tissue very much increased in amount; the capsules of the Malpighian bodies much thickened, also the connective tissue wall of the blood-vessels. The cells within the uriniferous tubules are enlarged, and in an advanced stage of granular degeneration; many of the tubules are entirely devoid of cells. The pathological change is one of interstitial nephritis.

“The liver is found to be in a state of indurated hepatitis, shown by a very decided increase of the connective tissue, and the excessive granulation of the cells.

"The muscular tissue of the heart has in a great measure lost its transverse striation, and the fibres present the morbid appearance of fatty metamorphosis.

"The large arteries from the brain present numerous points of atheromatous change, which have undergone calcification. The capillaries of the substance of the brain are seen here and there in their course to have a granular deposit resembling a calcareous infiltration of their walls.

"May 23, 1878."

THURSDAY EVENING, MAY 23, 1878.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Syphilitic disease of the pleura and lung.
Presented by Dr. W. H. WARDER.

THOMAS M., age 38 years, has always led an active life. Served in the army during the last war, and afterwards, one year in the army on the frontier. He came under my observation in January, 1873. At this time his general health was good. His weight was about two hundred pounds. He stated that in November, 1866, while on a visit to Rock Island, Illinois, he had an attack of pleuro-pneumonia, which was followed by empyema of the right side, which opened through the lungs, and large quantities of pus and blood were coughed up. So free was the expectoration at times as almost to strangle him. Two pints and a half by actual measurement would be thrown off in twenty-four hours. This expectoration continued through the winter and spring, getting somewhat better during the summer.

In the fall of 1867 his physician ordered him to Beaufort, South Carolina, to spend the winter. There he contracted intermittent fever in January, 1868, from which he did not entirely recover until July. His cough still continued, and did not disappear until the spring of 1869. His health from this time was good. He was married in the fall of 1869. About one year after, his wife miscarried at three months. The following year she miscarried at seven months. In January, 1873, I was called to attend her in confinement, and she was delivered of a still-born child, which had evidently been dead some days.

From the history of his wife's pregnancies, and she to all appearances being a healthy woman, I was led to suspect that the father had had syphilis. This, he acknowledged, occurred while he was serving in the army. Upon examination I found no involvement of the mucous membranes or bones. There were some eczematous eruptions upon the lower extremities, and also upon the arms. I placed him upon specific treatment, which was done more in reference to his wife's miscarrying than to any manifestations for want of treatment upon his part. While under this

treatment his wife conceived and at full time was delivered of a living child weighing nine pounds. The child was healthy, and did well until two months old, when nodes and swellings showed themselves on the fingers and bones of the forearm. These disappeared under constitutional treatment. The child at the present time is well grown and healthy.

Mr. M.'s health was uninterruptedly good until February, 1877, when he had a very severe attack of bronchitis with congestion of the right lung. He entirely recovered from this attack, but very soon afterwards pustular eruptions made their appearance upon his feet and legs, some of these pustules assuming the form of abscesses discharging quite a quantity of pus, and about the ankles degenerating into characteristic ulcers. There was general derangement of the secretions, with slight fever in the afternoon and evening. Under the use of pil. hydrarg., quinine, and potassium iodide, his general health was restored, but the pustules did not entirely disappear, although they were very much better.

In May he moved to Bound Brook, New Jersey. He was not under my care until November 16. He stated that in the early part of August he had taken a very severe cold, with chill, followed by high fever, and was treated for remittent fever by his attending physician. From this time until I saw him, November 16, there had been a series of improvements and relapses. There had been cough with slight expectoration, fever in the afternoon, and night-sweats. When I saw him in November he was suffering from a severe paroxysmal cough, with a tough, glairy mucous expectoration, with hectic fever in the afternoon and evening, and profuse night-sweats, difficult breathing upon making any effort in walking or ascending stairs, etc.

Pulse in the morning, 110; afternoon, 120.
Temperature.—Morning, 99½°; afternoon, 101½°.

November 18, Dr. Wm. Pepper met me in consultation. A careful physical examination showed that the respiratory movement over the lower part of the right lung was restricted, while that of the left lung was exaggerated. The heart's impulse was displaced towards the left, the apex-beat being in the line of the nipple. Resonance was good everywhere except over an area, semicircular in shape, which extended on the lateral aspect of the chest, from the liver-dulness below up to the line of the nipple, sloping downwards both in front and behind. Over this area there was absolute dullness on percussion. Auscultation over this space gave only very feeble, scarcely audible bronchial breathing, without râles. There was also almost complete absence of vocal fremitus and of vocal resonance. There were a few crackling râles in the lung-tissue immediately adjoining this area of flatness. Elsewhere the respiratory murmur was normal.

The above physical signs, viewed in connection with the general symptoms,—hectic fever and night-sweats,—with the history of the case, led us to the opinion that there was empyema, and we decided to explore the part with an aspirator needle. On the following day the needle was introduced to the depth of two inches in the seventh intercostal space in the line of the anterior border of the axilla. It passed into a solid, unyielding tissue, and no fluid followed.

From the syphilitic history of the case, and finding there was no pus, and the fact that there had been empyema in this side, we were disposed to think it probable that the pleura had become the seat of irritation with plastic exudation, which had become organized and was pressing upon the lung, together with some syphilitic degeneration of that tissue. In the hope of securing the absorption of the deposit we determined to place our patient upon the use of potassium iodide and hydrarg. bi-chlor., quinine, and opium, and with good nourishment to wait and see if such a result would follow. Feeling certain that the disease was of syphilitic origin, the iodide was given freely, the quinine and opium three times a day, and one-sixtieth of a grain of atropia was given at bedtime to control night-sweats. Under this treatment the appetite improved, the hectic fever lessened, and the night-sweats almost disappeared. Daily exercise in the open air when the weather was good. This course was steadily pursued until December 27, with some slight improvement in general health; and now, finding that no absorption was taking place, but that the area of disease was extending, with no change in the physical signs, we determined to repeat the operation to see if any breaking down of the mass had taken place. This was entirely unsuccessful. Upon passing the needle into the mass it was found that the same condition remained as before. The area of dulness had increased, the breathing was more difficult upon exertion, the cough was more troublesome, and the displacement of the heart was much greater.

The iodide was increased, and the mineral acids with tonics were given to keep up the digestive organs. The chest was painted with tincture of iodine once a day. The cough was controlled by hypodermic injections of Batley's solution of opium at night. The patient was still able to walk about, and each day, when the weather permitted, would take some exercise in the open air.

During January there was but little change in the case. The area of flatness gradually increased in every direction. It extended up into the axilla; it involved the posterior border of the lung, and also advanced anteriorly.

The apex and the anterior border were the parts which remained free last, and over them a remarkable tympanitic resonance existed for some weeks, until it was finally replaced by

flatness and the entire pulmonary area became non-resonant. It was to be noted that as successive portions of lung were invaded, the only physical signs developed were large crackling râles, and then complete dulness with absence of respiratory murmur followed. The displacement of the heart steadily increased until the apex-beat was at the anterior border of left axilla. There was at no time any valvular murmur. There were, however, a few dry clicking pericardial friction-sounds. The action of the heart was rapid but regular. As the case advanced (about February 1) there appeared enlargement of the lymphatic glands of the right axilla, and soon afterwards of the supra-clavicular glands. The enlargement ultimately became quite great. About March 1 difficulty of deglutition appeared and slowly increased, so that for two weeks before death he was only able to swallow small quantities of liquid. The breathing became more and more difficult, and somewhat stridulous, and the voice feeble. The cough became looser, and for several weeks there was considerable purulent expectoration. He had several attacks of diarrhoea, which made it necessary to stop the use of the iodide of potassium and mercury.

A third paracentesis was performed about February 25, at the earnest request of the patient and of his friends. There was no expectation of finding liquid, and in fact the needle, though introduced to the depth of two and one-half inches, failed to reach any. It was then determined to use frequent injections of liq. iodine comp. into the pulmonary tissue by means of a hypodermic syringe introduced through the intercostal tissue. These injections were continued daily, or on alternate days, for six weeks. They caused little pain or irritation. Death finally occurred after a protracted and painful struggle, with symptoms of cerebral disturbance, on April 8, 1878.

Post-mortem examination.—*Head.*—Not examined.

Thorax.—Left lung normal size. Presented some friable adhesions. Tissue deeply congested and crepitant throughout, and presented, in the posterior part of the upper lobe, nodules similar to the masses found in right lung. The glands about the bronchus were diseased and much enlarged. Right lung much enlarged and extending forward into anterior mediastinum, and very strongly bound down by adhesions, so that it was very difficult to remove. On removal the mass presented the general contour of the lung, so that it was evident in large part it consisted of lung-tissue infiltrated with morbid growth outside of the lung-tissue. Again, beginning at the base of the lung, there was a transverse line of demarkation, which indicated the apparent division between the lung substance and large mass of extra-pulmonary origin.

On making sections deep into the lung substance, no trace of pulmonary structure was

found. The mass was dense, and presented a yellowish-gray color, and of a firm fleshy consistence intersected by fibrinous trabeculæ. At points corresponding to the punctures minute points of softening stained by iodine were found. In the centre of the lower lobe a cavity of considerable size filled with shreds of tissue and pus, lined by a shaggy wall, existed. The size of the cavity was at least two and one-half inches in diameter. The division between the lower and middle lobes was only in part demonstrated. Through the lower and middle lobes the morbid tissue formed a uniform mass. In the upper lobe, the lung substance was replaced by an aggregation of firm nodules of varying size. In a few places there were nodular formations on the exterior of the pleura, or at least a uniform fibrinous membrane could be dissected up; and in a few places, especially on the upper lobe, it brought with it nodules springing from the pulmonary surface.

The anterior mediastinum was occupied by a dense mass tightly adherent to the anterior border of the right lung. The mass, which was partly composed of diseased glands, and partly of infiltrated connective tissue, was incorporated with the right side of the pericardial sac. On opening the latter membrane no adhesions were found to exist, only in a few points on the reflected layer, where there were small fat nodules elevated above its surface. On the other hand, there were some growths on the external surface of the heart, two of which were of considerable size, the largest being almost two inches in diameter, and elevated at least one-half inch above the surrounding level of the heart. On section it presented structure similar to the pulmonary growth, and evidently involving the muscular tissue of the heart. The glands of the posterior mediastinum were much enlarged.

The liver was somewhat enlarged, congested, and soft. There appeared to be no albuminoid degeneration.

The spleen was apparently normal.

The left kidney contained a secondary deposit, resembling a gumma, about five-eighths of an inch in diameter.

The stomach and intestines appeared healthy. No peritonitis, and no peritoneal growths. Some of the mesenteric glands were enlarged.

Nodules of varying size were found in the subcutaneous tissue of thoracic and abdominal walls. These, together with the enlarged cervical and axillary glands, were hard, and on section presented a pale yellowish-gray color and a dense fibrous structure.

The case, so far as I know, is unique and full of interest.

Report of the Committee on Morbid Growths.

—"A microscopic examination of a thin section taken from the mass which occupies the position of the right lung shows it to consist almost entirely of a dense fibrillar connective

tissue. The blood-vessels, which are few in number, are surrounded by an infiltration of indifferent cells. One of the small nodules taken from the left lung, upon examination, is found to consist of a similar tissue in an earlier stage of development. The alveolar spaces in the proximity of the nodule are seen to have their walls thickened by fibrillar connective tissue. The cells lining the alveoli are in a state of proliferation.

"June 27, 1878."

Cancer of the pleura and uterus. Presented by Dr. WM. DARRACH.

A. W., age 40, married, white, was admitted, March 27, 1877, in the Germantown Hospital. Breast removed by Dr. Müller; wound healed by granulation.

Re-admitted December 3, 1877. Cicatrix and enlarged axillary glands removed also by Dr. Müller.

Re-admitted third time, April 11, 1878. Died May 14, 1878.

At the time of her admission she complained of a great deal of pain and weakness. She was confined to bed. There was considerable dullness on percussion posteriorly, on the right side particularly, and some on the left.

Temperature ran from 99° to 100°.

The principal symptoms were pain and dyspnoea.

Post-mortem, thirteen hours after death.—Examination showed the following appearances and condition:

The body was somewhat emaciated. Over the left mammary region there was a large cicatrix, instead of a gland which had been removed some fourteen months before death. This cicatrix and neighboring region were interspersed with cancerous nodules.

Upon laying open the integument covering the chest, a layer of subcutaneous fat, yellowish in color, one-half inch thick, presented itself. The muscular fibres were normal in appearance.

Under the tissue of the left mammary region cancerous tissue adherent to the ribs presented itself, involving the periosteum.

The sternum and portion of ribs being removed, three pints of fluid, greenish yellow in color, were found in the right pleural cavity.

The right pleura presented some adhesive bands, and a mottled appearance, with some nodules.

The left pleura at the base was studded with small cancerous nodules, and contained one pint of fluid.

The costal pleura presented the same mottled appearance. The lower portion of lung adherent to the diaphragm.

Lungs.—Right much contracted and drawn to the upper portion of the cavity; crepitant and congested. When cut across, a creamy fluid was seen in some of the bronchial tubes, but no nodules of cancer could be detected in the lung structure.

The *left lung* was adherent to the diaphragm, and congested but crepitant. Here also there was an absence of cancerous nodules.

Heart normal in size and appearance; whitish fibrinous clot in left ventricle.

Stomach normal.

Liver full size. Several whitish nodules presented themselves, about the size of a pea, on the surface and somewhat imbedded in the substance, but none could be detected when the liver was *cut into*, as I have seen in other cases.

The *kidney* presented no abnormal appearance, except one nodule.

Uterus normal in size. A round deposit appeared outside, and upon being laid open a whitish round nodule, about one-fourth of an inch in diameter, showed itself in the right cornu.

The *spleen* was congested, and contained a nodular mass on the surface and extending into the substance. The nodules in these various organs presented the characteristic cancerous appearance.

No one organ was sufficiently affected to interfere with its function, except the lungs.

The immediate cause of death seemed to be the effusion in the pleural cavity.

The case was of interest to show how general the disease manifested itself in almost every organ except the lung, stomach, and glandular structure of the bowels, and also the choice of integument and the membrane investing organs not in the deep tissue.

Report of the Committee on Morbid Growths.—"A microscopic examination of the nodule situated in the walls of the uterus shows it to be composed of fibrillar connective tissue arranged in such a manner as to form alveolar spaces, which spaces contain large nucleated epithelial cells, demonstrating the new formation to be carcinomatous in structure, variety 'schirrhous.' Sections made from one of the nodules existing on the pleura proved by examination to consist of a similar new formation to that found in the uterus.

"June 27, 1878."

Case of disseminated miliary tuberculosis.

Presented by Dr. WM. PEPPER.

H., æt. 34, clerk in Pennsylvania Railroad office. Saw him May 5, 1878, with Dr. Stillwell. Married six years. During honeymoon became insane, and remained so six months. Always correct in habits, so far as known. No history of syphilis. Again was insane, two years after, for four months. Also, at least a dozen times, while sitting conversing, would suddenly jump up, say his head ached violently, become insane, continue so for fifteen to forty minutes, fall into deep sleep for twelve or eighteen hours, and awake weak but rational. *Was this epileptic?* About December 1, 1877, began to cough, and lost flesh; and by April 23, 1878, when he consulted Dr. S., marked symptoms of disseminated

tubercle of left lung. By May 1, 1878, some signs of mental disturbance; headache; drowsiness; pulse irregular; loss of appetite.

May 5, 1878, almost unconscious. No squint. No vomiting. Belly normal. Tâche méningitique quite marked. Pulse regular, 118. Respiration regular and rapid. Physical signs as before,—extensive disease of left lung and of right apex.

Symptoms advanced. May 8, 1878, squint; eyes glazing. Pulse 148. Respiration abdominal, very rapid. No tidal breathing observed, but it may have existed, as I saw him only on May 5, 6, and 8, 1878. Died same day.

Post-mortem.—Skull normal. Brain congested. Lateral ventricles contained a great deal of turbid serum. Walls very much softened. Great deal of lymph. Imbedded miliary tubercles at fissure of Sylvius on both sides over pons, optic chiasm, and intervening parts of base.

Lungs.—Left riddled with tubercles, gray and yellow; in places disseminated, in others confluent. A few cavities. Right lung, scattered miliary tubercles. Strong pleural adhesion on left side. Disease evidently quite old there. No pericarditis.

Liver congested; thickly studded with miliary tubercles.

Spleen enlarged. Capsule thickened, and patches of lymph. Numerous miliary tubercles in tissue.

Kidney congested. Quite numerous gray tubercles, larger than in spleen.

No peritonitis. Mesenteric glands not enlarged.

Microscopic examination of brain, kidney, liver, and spleen. By Drs. FORMAD and GILLIARD.

Kidney.—Was found to present a positive increase of interstitial connective tissue corresponding in appearance to the early stage of interstitial nephritis. The epithelial cells, in places, were in a state of cloudy swelling, in other places granular, and in still other spots had undergone complete fatty change.

Some of the uriniferous tubules were filled with glistening amyloid casts.

Disseminated throughout the parenchyma of the kidney were found well-defined tubercles, which were so large as to be easily recognized in a thin section by the naked eye. They presented the usual reticulated arrangement of adenoid tissue filled with more than the common number of lymph corpuscles. In places the tubercles showed spots of secondary cheesy softening; in other places they had undergone complete cheesy change.

The tubercles have evidently originated in the capillary plexus making up the Malpighian tufts.

Liver.—Shows a large number of tubercles of large size, situated principally in the outer zones of the acini; some isolated; some aggregated in groups of from four to six; many

of them characterized by the presence of the so-called giant cells; some have undergone cheesy change. There are also seen isolated spots of fatty infiltrations. Otherwise the parenchyma of the liver seems not to be impaired, except that the cells, more especially those of the outer zones of the acini, are stained with bile.

In some places between the acini are seen bands of adenoid tissue.

Spleen.—There are a great many tubercles along the smaller vessels, some isolated, others in groups.

Brain.—*Pia mater*.—All the blood-vessels, as well as the capillaries, are covered with tubercular masses, in many places entirely hiding the muscular structure, and in some points aggregated, forming spindle-shaped or round nodules, entirely surrounding the vessel, in other places forming a bulging on one side.

Portions of brain tissue from the neighborhood of the fissure of Sylvius and from the ventricles showed partial softening, as indicated by the presence of compound granular cells, pus corpuscles, and the debris of nerve fibres. Other portions appeared to be normal, but the vessels throughout, capillaries and blood-vessels, were surrounded and covered with tubercular masses aggregated in places to form nodules.

REVIEWS AND BOOK NOTICES.

PRACTICAL CHEMISTRY FOR MEDICAL STUDENTS. By W. M. PATTISON MUIR, F.R.S.E. Published by Macmillan & Co., London. 64 pages. Price, 60 cents.

The preface to Mr. Muir's little book forms an admirable introduction to the subject, not only for students, but to be read and remembered by instructors. The remarks on, and rules for, practical chemistry, on pages 7-18 inclusive, are very clear, and remarkably thorough for the scope of the work. Under the reaction for bases, students are liable to be much confused by the use of a reagent, as in the work before us, which often gives the same test, to all appearances, with a number of bases. We decidedly prefer the additional use of reagents which would give characteristic tests, thus making the distinctive reaction prominent; then the tables would assume, at the same time, a more analytical character than they do now. The separation of the bases is indeed one of the "possible methods," but we are inclined to think that there are other "possible methods" equally simple and much more accurate. The beginner may find it difficult to analyze a mixture by the methods given. With regard to the reaction for acids, we can but commend their completeness; while the methods for separating

them are open to the same objection as those for bases.

As a whole, it is a work worthy of the student's attention, but we regret that the author has not made it a little more complete: the arrangement is, on the whole, very satisfactory.

OUTLINES OF MODERN CHEMISTRY, ORGANIC.

By C. GILBERT WHEELER. Published by James McClurg & Co., Chicago. Pp. 231.

Prof. Wheeler's work contains nothing new, if we except the arrangement, beyond one or two facts based upon personal observation,—facts which are of little general interest to the student. The arrangement of the subject-matter is quite unique, bringing to the mind of the student no theoretical relation between the organic compounds or substances under consideration. The analogy between organic and inorganic compounds is dwelt upon, preference being given, in a practical sense, to those subjects which are but generally of theoretical interest. The object of organic chemistry, as taught to students, is not so much to make them conversant with the minutæ and practical value of the substances as with the theoretical relations existing between them. This the work under consideration apparently fails to do. The analogy between the theoretical and practical synthetical methods of forming organic compounds is not, in our opinion, sufficiently developed. Of the subject-matter we can say but little, since, when it is not taken literally from the authors mentioned in the preface, it is given equally well by them.

As a compiled work on organic chemistry, it is the only one with which we are acquainted in the English language which has this peculiar and, to our way of thinking, faulty arrangement of subject-matter.

FOWNES'S MANUAL OF CHEMISTRY. Revised and corrected by HENRY WATTS, B.A., F.R.S. A new American from the twelfth English Edition. Edited by ROBT. BRIDGES, M.D.

This favorite manual, in its various editions, remains a standing proof of the truth of the maxim, "A child whom many fathers share has seldom known a father's care,"—proof, because "exceptions prove the rule." It maintains steadily its ancient character for uprightness and solidity, and in its sales seems to lose none of its headway. We commend it afresh to such of our readers as are chemically inclined.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING. Part IV. J. B. Lippincott & Co.

This part contains plates of vitiligo, alopecia areata, tinea favosa, and eczema (rubrum), and fully maintains the very high character of the book. The plate of tinea is quite remarkable for the skill with which the peculiar expression, to use an artistic term, of the surface is brought out.

MISCELLANY.

THE TREATMENT OF CHOREA (*The Practitioner*, July, 1878).—Rosenbach calls attention to the benefit that may be derived in this disease from the employment of a constant current of electricity as a means of determining the position of painful points, which in many instances—as, for example, on the vertebræ—cannot be determined by the mere pressure of the finger alone. In two cases of chorea—one in a girl of nine, and another in a girl of twelve years of age—he was thus enabled to discover certain painful points. To these he at once applied blisters, and subsequently a constant current of electricity, with perfect success in both cases.

THERE is a remedy which is often of great value to the sick and always grateful to the patient, but which is used with comparative rarity on account of the expense and difficulty of procuring and keeping it. This is carbonic-acid water. The Franco-American Mineral Spring Water Company of this city propose to remedy this difficulty by offering it in siphon-bottles delivered at the house at the trifling expense of ten cents a bottle. We have always found the water sparkling and overflowing with carbonic acid even to the bottom of the jug, and can therefore commend it to our readers.

THE use of horseflesh appears to be spreading. An establishment for its sale was opened upon the 4th of May in London, and in two months the edible parts of the carcasses of thirty-six horses, seven donkeys, and one mule were disposed of. The mule probably was turned into "Bolognas."

A CASE of successful abdominal section for the removal of a preserve-bottle seven inches long from the large intestine is reported in the *British Medical Journal* for August 3, 1878 (taken from *Hospitals Tidende*). The bottle was introduced for the purpose of damming back a diarrhœa.

VIRCHOW retires from politics to science.

NOTES AND QUERIES.

TO THE EDITOR OF THE MEDICAL TIMES:

DEAR SIR,—In times like the present, when the news from our Southern cities calls largely on our sympathy as we read daily of the increased mortality and spread of yellow fever, the vexed question of quarantine comes before the public, and attention is directed to its uselessness when partial, as when boats and vessels from the affected places are subjected to restrictions and delays while other means of travel and communication are left open and unguarded. It seems to me that the mistake in our quarantine and health regulations is in not insisting on total isolation, in the interests of the community at large, of cases of infectious or contagious disease, or, carrying out the same principle, of cities or districts where such disease is prevailing. This is no new idea, nor is it an impracticable one, as experience in the plague has shown. Even if the quarantine should be evaded or negligently enforced, the few cases thus developed in other centres would be far less of an evil than such a broadcast sowing of infection as we now hear of through the South and West, and the evils to the nation at large would be much diminished, while every instance in

which an individual became a centre of infection in a fresh place would be the strongest possible argument in favor of a more rigid observance of the laws in future. I would advocate the enforcement of isolation not only in yellow fever and cholera but also in scarlatina and diphtheria, as well as in smallpox, and perhaps in measles,—certainly where the epidemic seems to be a malignant one.

I have been led to write thus to you from a recent experience at a watering-place of large resort. I was asked to see in consultation a boy aged twelve years, with a well-marked case of diphtheria. The family had come from a distant city, three or four weeks after the death of one of the children from diphtheria, and had been two weeks at the watering-place before the disease manifested itself. None of the clothing, etc., used in the sick-room of the child that died had been brought, and the house had been thoroughly disinfected. The only source of infection was the nurse, who was suffering, when I saw her, with a carious tooth, and had the purplish, relaxed condition of the fauces which told of her recent recovery from diphtheria; she had had it at the same time with the child that died. I could not, however, detect any ulceration or deposit in her throat. There were over three hundred persons in the house, more than one hundred of whom were children. We had the sick child and the nurse immediately removed to a cottage at some distance, and the room disinfected, as also the water-closets; the disease did not spread, and the child recovered. Such a fortunate issue, however, might not have occurred, and what would have been the result if the disease had spread? There were families gathered from all parts of the land; alarmed, they would have fled home, or to other places of public resort, carrying the disease wherever they went, and hundreds might have died from the contagion carried by that single nurse and thus propagated. I write all the more freely about this case because the child was the grandson of a distinguished practitioner, who took every care and precaution that he could to prevent the spread of contagion, and the family was not allowed to leave home until three weeks of health had apparently shown that it was safe so to do. So it would have been had not the nurse probably carried the contagion, as I believe frequently happens, in a larvated form.

If medical men would unite in this matter to show the community how these terrible scourges are thus spread, I believe there would be no difficulty in enforcing proper sanitary restrictions; the instinct of self-preservation would be aroused, and the necessary laws, many of them at present existing but disregarded, would be efficiently put in operation.

Yours, etc.,

J. CHESTON MORRIS.

1514 SPRUCE ST., PHILADELPHIA, Aug. 15, 1878.

EDITOR PHILADELPHIA MEDICAL TIMES:

MY DEAR SIR,—I notice in your last number a note from Dr. Haynes relative to dialyzed iron, and to a circular which I sent out some time since, in which I mentioned it.

I said that dialyzed iron was "an uncleanly form of iron, possessing no positive virtues, the negative one of not generally constipating only because not generally absorbed at all," and that in most cases it was absolutely inert. "When brought into admixture with either alkaline or acid solutions, however dilute, as it is when taken into the stomach, the insoluble oxide (of iron) is immediately precipitated; as all absorption takes place in the stomach by dialysis, and as oxide of iron and dialyzed iron are colloids not capable of absorption, unless there be great excess of acid in the secretions they are not brought to an assimilable condition, and pass away from the body with the other colloidal containings of the intestines as excrement."

As to its uncleanness there can be no controversy. Concerning its practical insufficiency I had the experience of many of the best men in the practice of medicine in this city to judge from before making the assertion that I did (I refer to Drs. Agnew, Ellwood Wilson, J. F. Meigs, Duhring, Stillé, W. F. Atlee, Keen, Cheston, Duer, Hooper, Morton, Goodman, Keating, F. G. Smith),—men whose experiences and assertions concerning such things are final and conclusive.

In regard to the correctness of the theory of its inertness and non-absorption I think there can be no dispute. That it is a colloid, and that the precipitate occasioned by its contact with the fluids of the mouth, the juices of the stomach, and the food is not a crystalloid, are indisputable. That the crystalloid condition is necessary to assimilation is, I believe, decided, and that colloids are never absorbed I think is regarded as equally sure.

After my circular had been distributed I received my copy of Bouchardat's "Annuaire de Thérapeutique" for 1878. Referring to dialyzed iron, Bouchardat says, "Dialyzed iron should be ranged among the least active of the ferruginous preparations." Again he says, "Dialyzed iron appears to me to be, theoretically at least, the most untrustworthy [le

Plus infidèle] of the ferruginous preparations into which oxide of iron enters, and this for two reasons. The iron called *dialyzed* does not pass through the dialyzer; it therefore rebels against absorption. Under the influence of very small quantities of alkali, of alkaline earths, of acids, of various substances of food, it is converted into an insoluble compound. *Theoretically*, I repeat it, dialyzed iron should be considered as an inert ferruginous preparation, or one of the least active ones."

With much respect, very truly yours,
GEORGE I. MCKELWAY.
PHILADELPHIA, August 9, 1878.

PHILADELPHIA, August 5, 1878.

DR. H. C. WOOD:

DEAR SIR,—Since writing you the results I obtained by the use of picrate of ammonia for the immediate cure of whooping-cough, I have had some ten or twelve additional cases. I treated them in the same way, and (with the picrate of ammonia) have had the most satisfactory results. Indeed, some of the cases were cured in the marvellously short time of from twenty-four to seventy-two hours. Having had the ten or twelve cases additional to those already reported May 25, together with some fifteen or twenty cases reported to me within the past few days, I can most safely affirm that, if properly administered, the picrate of ammonia is a specific for the cure of whooping-cough. I have increased the dose somewhat; I now give to babies one-sixteenth to one-twelfth grain, to children one-twelfth to one-eighth grain every three hours, and I have observed more positiveness in the results.

I have also used in one case of diphtheria picrate of ammonia by applying as a gargle (gr. viii to Oj) and by atomization.

The solution of picrate produced a yellowish staining of the parts in such a way that I am inclined to believe a destruction of the micrococci ensued, and a speedy cure of the disease was the result. In my next case I will try to demonstrate (microscopically) the opinion I am forced to entertain by the result of the plan of treatment I carried out.

It of course will be advisable to detach thick exudations so that the picrate of ammonia solution can come in direct contact with the colonies of spherical bacteria.

With very much respect, I remain truly yours,
Z. T. DELLENBAUGH.

At the stated meeting of the Philadelphia County Medical Society, held June 19, 1878, a committee was appointed under the following resolution:

"Whereas, Good vision is of great importance in the career of every individual, its defects insuring more or less hindrance to success; and whereas many of these defects of sight, notably myopia, are caused or made progressive during school-life, as set forth by numerous investigations in other cities, both in Europe and this country;

"And Whereas, It is believed that proper attention to the lighting, seating, hours of study, character of type in text-books, etc., etc., will do much to obviate defects of sight;

"Therefore Resolved, That the Philadelphia County Medical Society respectfully request the School Board of Philadelphia to extend every possible opportunity to a properly authorized member or members of the Society to examine the eyes of the school-children in the public schools of Philadelphia, and to investigate all matters pertaining to their vision and the preservation of the same."

The committee consists of five, as follows: Dr. S. D. Risley, chairman, A. Nebinger, L. Brewer Hall, A. G. Heyl, J. Collins.

CARTHAGE, JASPER CO., MO., July 24, 1878.

EDITOR PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—I have a patient afflicted with epilepsy, to whom I have been giving the bromides of potassium, ammonium, iodine, and lithium, and, as he still has fits occasionally, I wanted to try a more thorough treatment, such as described in the *Boston Medical and Surgical Journal*, December 27, 1877, and called there the "Brown-Séquard Treatment in Epilepsy." I had one of our druggists put up the prescription, which is as follows:

R. Sodii bromidi, iiodidi bromidi, ammon. bromidi, aa ʒiij;
Potassii iiodidi, ammonii iiodidi, aa ʒiiss;
Ammoniz. sesquicarb., ʒiiss;
Aque destillat. ad ʒviij.—M.

The druggist mixed the salts, except the liquid bromide iodide, the tincture, and the water, and all seemed right, but as soon as he added the bromide iodide, a dense precipitate was formed, with evolution of fumes, as of bromine.

As he feared to send out the medicine, I kept it a few days, when the bottle burst with a noise, though placed in a sheltered position.

The bromide of iodine was obtained from Richardson & Co., of St. Louis, a reliable firm.

Would you or some reader of the *Times* state whether there is a way of putting together the above prescription so as to avoid chemical disturbance so violent? Is the bromide of iodine a liquid?

Respectfully,
ROBERT F. BROOKS.

LARAMIE CITY, WYOMING, July 1, 1878.

PROF. H. C. WOOD, JR., PHILADELPHIA, PA.:

I send you by mail a sample of the so-called *Oregon* grape. An infusion of the root is used by our mountain-men as a *febrifuge* in the so-called mountain fevers. Please give botanical characteristics and medical properties, if any, through the *Quarterly Amer. Jour. Med. Sciences*, or *New Remedies*, and oblige

Yours, etc.,
J. H. FINFROCK, M.D.

Oregon grape is *Berberis aquifolium*, Pursh, sometimes also called in Colorado "Mountain Grape." I have long heard of its reputed value among and from the mountain-men; but I have no personal experience with it, nor have I ever been able to get a real up-and-down statement of exactly what it would do. Dr. Engelman, in a lecture in St. Louis, says the fermented juice with sugar makes a palatable and wholesome wine. This plant ranges from British Columbia south to Monterey in California, and I have collected it on the eastern slopes of the Rocky Mountains, back of Denver.

The order *Berberidaceae* does yield some active properties, and it may be worth trying. I am skeptical, however.

Yours, ever,
J. V. ROTHROCK.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF
OFFICERS OF THE MEDICAL DEPARTMENT
U.S. ARMY FROM AUGUST 11 TO AUGUST 24,
1878.

BAXTER, J. H., COLONEL AND CHIEF MEDICAL PURVEYOR.—To inspect the Medical Purveying Depot at San Francisco, Cal., and en route back to Washington, that of St. Louis, Mo. S. O. 175, A. G. O., August 14, 1878.

BROWN, J. B., MAJOR AND SURGEON.—President of Army Medical Examining Board, New York City. Relieved from duty in the Military Division of the Atlantic. S. O. 180, c. s., A. G. O.

IRWIN, B. J. D., MAJOR AND SURGEON.—Granted leave of absence for one year, with permission to go beyond sea. S. O. 176, A. G. O., August 15, 1878.

WHITE, C. B., MAJOR AND SURGEON.—Granted leave of absence for one month on Surgeon's Certificate of Disability. S. O. 179, A. G. O., August 19, 1878.

NOTSON, W. M., MAJOR AND SURGEON.—Relieved from duty in Department of the Platte, to proceed to Philadelphia, Pa., and upon arrival report by letter to the Surgeon-General. S. O. 176, c. s., A. G. O.

KINSMAN, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Baton Rouge Barracks, La. S. O. 22, Department of the South, August 7, 1878.

LAUDERDALE, J. V., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Missouri, ordered before the Army Medical Board, New York City, for examination for promotion, and then report by letter to the Surgeon-General. S. O. 176, c. s., A. G. O.

CAMPBELL, A. B., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for three months from August 9, 1878, on Surgeon's Certificate of Disability. S. O. 182, A. G. O., August 22, 1878.

FITZGERALD, J. A., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Department of the Columbia, ordered before the Army Medical Board, New York City, for examination for promotion, and then report by letter to the Surgeon-General, to take effect when his services can be spared. S. O. 176, c. s., A. G. O.

TORNEY, G. H., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Wingate, New Mexico. S. O. 150, Department of the Missouri, August 20, 1878.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 14, 1878.

ORIGINAL COMMUNICATIONS.

TWO CASES OF OPIUM-POISONING—FAILURE OF ATROPIA TREATMENT.

BY FRANCIS L. HAYNES, M.D.,

Assistant-Surgeon to the Episcopal Hospital.

I.—HALF AN OUNCE OF LAUDANUM SWALLOWED AND RETAINED—RECOVERY.

SAMUEL S., aged 50, a weaver, was a man of eccentric character and intemperate habits. He had been for years afflicted with phthisis, and was greatly emaciated. On August 9, 1878, during a debauch, which had commenced five days previous, he swallowed half an ounce of laudanum. Vomiting did not occur at any time. The preparation was not the officinal one, but I was assured by the very careful apothecary from whom it was purchased that it contained the active principle of nine grains of opium (to the half-ounce of menstruum). The patient was taken to a police-station, and was treated by electricity and forced exercise. I did not see him until 4½ hours had elapsed.

4½ hours.—He was very sleepy, but could be awakened by shaking; he answered questions, and could walk, with the assistance of two men. He would not swallow, or allow the stomach-pump to be used. Respiration 6, somewhat stertorous; pulse 156, weak; pupils—right one-half dilated, left extremely contracted; both immobile. Atropia sulph. gr. ⅛ was injected under the skin. He was aroused at intervals by shouting, whipping, and shaking, and by forcing him to walk, but did not breathe more frequently when awake. The stertor disappeared when he was awake.

5 hours.—Condition the same. Atropia sulph. gr. ⅛ injected.

5½ hours.—He could scarcely be awakened. When attempts were made to exercise him, his legs "doubled up." Respiration 5; stertorous; pulse 158, weaker.

5¾ hours.—Atropia sulph. gr. ⅛ injected.

6 hours.—He could not be aroused. The left pupil was somewhat larger; the right was of the same size as at 4½ hours. Respiration and pulse same as at last note. Atropia sulph. gr. ⅛ injected.

6¼ hours.—Respiration 5, stertorous; pulse 160, very weak. Left pupil still larger; right continued at same diameter.

6¾ hours.—He was completely comatose. Respiration, pulse, and pupils the same. Atropia sulph. gr. ⅛ injected.

8 hours.—He was apparently dying. The lips were blue, the surface cold and clammy, the eyes turned up. Respiration 4, very noisy; pulse almost imperceptible, and so frequent that it could not be counted. The left pupil

had dilated to the same extent as the right, which retained its original diameter. He remained in this condition for half an hour, then gradually improved.

9½ hours.—He could be readily aroused. Respiration 5, less stertorous. Pupils and pulse same as when last noted.

15½ hours.—He was awake and troubled by hallucinations, but was occasionally sensible. Respiration 11, quiet; pupils same; pulse 144.

24 hours.—Delirium since last note; sleeplessness; dryness of throat. Respiration 20; pulse 140.

43 hours.—He was still sleepless, and was troubled at times by hallucinations. A sleeping-draught was ordered.

From this date the history of the case is one of pneumonia occurring in a consumptive. He succumbed August 18.

The total quantity of atropia sulph. given was gr. ⅞.

Remarks.—Atropia was not given in this case as an antagonistic poison, but as a stimulant to the respiratory centres. During its use all the symptoms were aggravated; and one and three-fourths hours elapsed, after the last dose, before any improvement occurred.

Atropia is supposed to be beneficial in opium-poisoning—(1) by antagonizing in some mysterious and undefined way the action of opium, just as quinia antagonizes the action of malaria on the system;* (2) by causing the dilated and paralyzed vessels of the brain and spinal cord to contract, and thus obviating death by congestion or œdema of these organs;† (3) by stimulating the heart, and preventing death by cardiac exhaustion;‡ (4) by stimulating the respiration, and thus combating the most frequent cause of death in narcotic poisoning,—failure of respiration.§

In this case the atropia had an opportunity to act in any of these ways. The dose was large enough to act as an antagonistic poison,|| and not too large to act as a cerebral vaso-motor, a cardiac, or a respiratory, stimulant.

For the history of the following case I am indebted to Dr. Todd, of West Point, Ga. It has not, I think, been published hitherto.

* Norris, Am. Journ. Med. Sci., Oct. 1862; Johnston, Med. Times and Gaz., Sept. 7, 1870, p. 268.

† Bennett, Antagonism of Medicines, Lond., 1875, p. 46.

‡ Harley, Old Vegetable Neurotics, p. 309.

§ H. C. Wood, Am. Journ. Med. Sci., April, 1873, p. 339.

|| Nine grains of opium, the dose taken in this case, are about equal to one grain of morphia, a dose which is sometimes used therapeutically, by the mouth, or injected under the skin. According to the ordinary doses employed, gr. 4-10 of atropia should at least equal as a poison the above-mentioned dose of morphia.

II.—ONE OUNCE OF OPIUM TAKEN—A PORTION
VOMITED—DEATH.

B. R., aged 56, a merchant, had been at intervals for eighteen months a sufferer from attacks of insanity, during which he had attempted by various means to commit suicide. On December 20, 1872, he ate one ounce of gum-opium.

1 hour afterwards.—He was slightly sleepy. Refused treatment.

2 hours.—The drowsiness was increasing. Vomiting of a quantity of opium followed the administration of sulphate of zinc, through the nose, by means of a funnel and catheter. Forced exercise was used. Hypodermic injections of veratrum viride tincture, eleven drops in a drachm of whisky, were commenced, and continued at intervals of half an hour.

7 hours.—Hitherto the patient had not been very drowsy. He had given rational answers to questions; the respiration had not fallen below 14, or the pulse below 65, a minute. The pupils had not contracted. "At this time Dr. X., the family physician, arrived, and only one more dose of veratrum viride was given. The patient recognized Dr. X. Dr. X. counted his pulse and respiration, which were as given above. We commenced to use the cold douche.

"7½ hours after the ingestion of the poison we commenced to inject atropia under the skin, in doses of gr. $\frac{1}{20}$. This was repeated every fifteen minutes. From the first dose the coma deepened and the respiration became less frequent.

"8 hours and 20 minutes.—The pupils began to dilate.

"8½ hours.—At this moment, precisely, he ceased suddenly to breathe. The heart continued to beat 65 a minute for several minutes after the breathing had ceased. Artificial respiration and electricity were tried, but in vain."

Remarks.—Atropia certainly did not stimulate the respiration in this case, the patient dying from failure of that function. (It is not certain, from the notes, whether four or five doses were injected; but probably only four, as respiration ceased just as the moment came for the fifth injection. The state of the pupils, though this is not a very important point, is not very satisfactorily indicated.)*

* The subject is one of such importance that the editor of the *Times* takes the liberty of pointing out that, according to his reading, these cases do not disprove the value of atropia in opium-poisoning. In the last case the patient took the equivalent of nearly thirteen ounces of laudanum: of course in immediate evacuation of the stomach lay the only chance of escape. In the first case, apparently, not enough of atropia was used to so far counteract the effect of the laudanum as to produce any immediate effect. Only after the lapse of some hours does the report afford any indication of belladonna symptoms. There can be no definite relative dose of the two poisons, as different individuals offer very different susceptibility to the two narcotics.

SUCCESSFUL CASE OF TREPHINING FOR EPILEPSY.

BY PROF. D. HAYES AGNEW.

(Reported by W. HOBSON HEATH, M.D., Ex-Resident Surgeon University Hospital, Resident Physician Philadelphia Hospital.)

M. R. B. S., æt. 45 years, was wounded in Tennessee on January 1, 1863, by a piece of shell which exploded about twenty feet above him, a fragment striking him upon the top of the head and chipping off a piece of skull. He lost consciousness for about an hour, was taken to a hospital and placed with the other wounded. No evidence of compression. The injury was not followed by any inflammation of the brain or meninges, although the wound was attacked by erysipelas two weeks after. He rejoined the Confederate army eight months after receipt of the injury, during which time several fragments of bone were discharged; his health otherwise being perfect. The first attack of epilepsy came on suddenly before breakfast, six years later (1869), upon a damp, inclement morning. There was no distinct aura; the fit was violent, and the following stupor deep, and it was the most violent of all his seizures. The cicatrix had never given any neuralgic trouble or become inflamed.

Two months later a second seizure occurred of the same character, and very severe, and up to the present time they have recurred at periods varying from one to six weeks. At one time they were held in check by large doses of the "bromides." The past year the attacks have been preceded by an aura, which commences on the inner and under side of the arm near the wrist, and sometimes at the tips of the little and ring fingers, and is described as a sleepy, numb feeling. The disease has seriously interfered with his business, impaired his mind and memory, especially during the past two years, and on several occasions jeopardized his life.

General health good, habits excellent, is married, and children healthy.

Parents healthy, and habits good. No history of epilepsy in family.

Examination of head shows a cicatrix two and three-quarter inches long over right parietal bone. The cicatrix is depressed one and three-quarter inches of its length at one end. Depression measures one and a half inches in length at the bottom, one-third of an inch wide, one-third of an inch deep.

This patient had been in the hands of many of the best physicians in the South, without relief. He applied to Prof. Agnew for surgical interference to remedy his condition. He was kept quiet for a few days, and his general condition was looked after; had no fits for thirteen days prior to admis-

sion. At the time of operation he was etherized, his head was shaved, and a crucial incision made over the cicatrix, each flap being dissected off from the pericranium. The somewhat free hemorrhage was controlled by the flaps being held and the vessels compressed by the assistants. The trephine, an ordinary fluted one, the size of a twenty-cent piece, was applied over and included one end of the depression, and was very slowly worked. It was some twenty minutes before the skull was sawed through, and then upon examination it was found to have been perforated only at one-half of the circumference of the trephine. This irregularity was due to the fact that the bone, especially the inner table, had become hypertrophied at and around the point of injury, and the point first sawed through was where the process had been less—farthest off from the injured portion of bone.

Examination of the pieces removed and of the skull itself showed that there was no depressed fracture at all; that the injury sustained by the bone was simply the chipping off of a piece from the outer table; that, in consequence of this, the bone, particularly the inner table, had become hypertrophied, the thickest part being apparently around the injury, and therefore the pressure upon the brain was general over a surface probably many inches around. Two discs of bone, which included the *depression in the bone*, were removed, and showed the condition stated, and also that the increased thickness was of such extent that it was not thought prudent to remove it entirely. The fact that frequently in trephining the instrument passes through to the dura mater at one point before it does at another (and it was so especially in this case, though from pathological reasons) suggested to Prof. Agnew the idea of having a trephine serrated only on a portion of its circumference, the remainder being smooth. Such an instrument could be used without injury to the membranes where they were exposed, and in the present case would have been very useful. On removing the pieces of bone the membranes were found uninjured, and there was no trace of previous inflammation. The flaps were closed over the wound, but no stitches or adhesive plaster applied to keep them in place, and thereby exert any pressure or obstruct the drainage. The treatment then ordered was a plain water-dressing locally, and calomel $\frac{1}{2}$ grain, opium

$\frac{1}{2}$ grain, every two hours, with an occasional dose of bromide of potassium, if restless, milk diet, elevation of the head, and perfect quiet.

Patient came out of ether nicely, and did not vomit; complained slightly of headache; had no chill, no increase of temperature, and slept well under bromide of potassium until the next morning, when he was taken with a convulsion, not very severe or long, which was attributed to the operation.

The case after this did remarkably well. There was no inflammation of the brain or meninges, though it was expected to follow.

The temperature during the first week arose to 100° twice; after that it remained at 98° , 99° , until the patient was discharged. The pulse, never above 100, and averaging 90, was throughout soft and regular. The tongue was slightly furred, due to the irregularity of the bowels and confinement. The constipation was obstinate, owing to the recumbent position and a natural torpid habit. Seidlitz powders and the occasional judicious administration of an enema only were used.

The appetite was good after the first four days.

The most annoying symptom complained of throughout was headache. This was constant and frontal,—right over the eyes; it diminished after the first week, and assumed an intermittent character, being produced, apparently, or influenced most by constipation. At one time it appeared like neuralgia of the supra-orbital nerve, and aconitia ointment was applied, and gave relief.

Bromide was given throughout the treatment; the calomel and opium were discontinued after the first week. The wound was dressed with plain water-dressing, and nothing was allowed to interfere with free drainage. After the granulation reached the level of the scalp, the edges of the flaps were gently approximated by strapping.

At the end of twenty days he was allowed to sit up in bed, and by the thirty-second day to get out of bed, remaining up longer day by day.

The operation was not followed by any exfoliation of bone.

The patient was discharged six weeks after operation, to return to the South.

This makes the second case of trephining for epilepsy by Prof. Agnew at the University Hospital, within two years, with

the recovery of both patients and the disappearance of the malady.

The most peculiar and interesting feature in this case was the general thickening of the bone around the seat of injury and the relief by the operation, though the entire amount thickened and pressing upon the brain was not removed.

The rapid and uninterrupted convalescence is worthy of note, considering his age and condition, and the gravity of the operation.

UNGUENTUM HYDRARGYRI OXIDI FLAVI.

BY J. T. WALKER, M.D., PH.D.

IN the *Medical Times* of July 20, 1878, there appeared an article written by Dr. Landesberg condemning the above ointment, for its non-stability and difficulty of preparation, in the following language: "1st, it is *very liable* to decomposition; 2d, it is very hard to *triturate*. Whatever constituents may be used for the ointment, decomposition sets in sooner or later. The ointment, which, if properly attended to, is of a fine yellow color, becomes, after a *short* time, dirty yellowish, smells rancid, and loses its healing power."

He says further, "How difficult it is to *triturate* the yellow oxide of mercury is proved by the fact that the correct composition of the ointment is found with only few druggists," etc.

How the doctor could arrive at the above conclusions is difficult for one to understand, unless he has repeatedly fallen into the hands of ignorant or unprincipled druggists.

In the first place, the ointment is not very liable to decomposition if made with suitable material; secondly, it requires no *trituration*, as the yellow oxide is an amorphous powder, prepared by precipitation, showing no crystalline structure even under the microscope; in this respect totally unlike the *red* oxide.

On the 24th ult. (more than four weeks ago), Mr. D. H. Latham, Jr., prepared for me the following ointments (all of which are in a good state of preservation), taking no more than ordinary care in preparing them, and taking special care to give them the usual exposure by removing the lids from the jars daily and allowing access of

air. They were dispensed in an ordinary half-ounce glass jar with a wooden lid, the same as used by most apothecaries in dispensing ointments.

No. 1.

R Hydrargyri oxidi flavi, gr. xxx;
Unguenti benzoini (U.S.P.), ʒiiss.

No. 2.

R Hydrargyri oxidi flavi, gr. xxx;
Unguenti petrolei (Cosmoline), ʒiiss.

No. 3.

R Hydrargyri oxidi flavi, gr. xxx;
Unguenti aquæ rosæ, ʒiiss.

No. 4.

R Hydrargyri oxidi flavi, gr. xxx;
Unguenti aquæ rosæ, ʒiiss;
Balsam. Peruv., gtt. iii.

No. 5.

R Hydrargyri oxidi flavi, gr. xxx;
Unguenti cum oleo ricino, ʒiiss.

It will be observed that the amount of yellow oxide used is greater than ordinarily prescribed, which would be more favorable than otherwise for oxidation. No decomposition has yet taken place in any of the ointments, but of course would in time, with the exception probably of that made with *cosmoline*, it being no doubt by far the best material for all ointments, and should be preferred where an ointment would be required to be kept a very long time; but a month is quite as long, even longer, than any physician expects a patient to use an ointment without renewal.

No. 3 was made with cold cream (rose-water omitted). This cold cream was not made for the oxide of mercury ointment, but was taken from some that had been made two weeks, the object being to use no more than *ordinary* care in preparing and selecting material, so as to come to an impartial conclusion concerning the above ointments.

No. 4 was made with same cold cream (U. S. P. formula), minus rose-water.

No. 5 was made from a recipe furnished by Mr. Henry A. Bower (*vide Journal of Pharmacy*, Phila., vol. xlii. p. 303). An ointment of the red oxide of mercury, prepared thus, I have seen keep for six months without undergoing any change. This probably is almost as permanent as *cosmoline*. The following is the formula:

R Hydrargyri oxidi rubri (vel flavi), ʒx;
Olei ricini, fʒi;
Adipis (lat.), ʒvii;
Cera flavæ opt., ʒii.

Melt the wax and lard together, and mix

with the castor oil. On cooling, add the precipitate in very fine powder, stir constantly with a wooden spatula until cold. From the above experiments I am convinced that no one is worthy of the title apothecary who cannot furnish a satisfactory ointment of yellow oxide of mercury.

201 COLUMBIA AVENUE, PHILA.

CHLORAL HYDRATE AND OXIDE OF ZINC IN ACUTE INTESTINAL DISEASES OF CHILDHOOD.

BY JAMES L. TYSON, M.D.

HIGH heat for the past six or eight weeks, together with the irritation of dentition and improper diet, or over-feeding, or both, have been prolific factors in the generation of that troublesome and not rarely fatal malady among children, in ordinary parlance cycled summer complaint, whether it presents itself under the form of simple diarrhoea, cholera infantum, enterocolitis, or dysentery. Though the unwholesome atmosphere of a city in hot weather contributes largely to its production and fatal result, I am inclined to think that unsuitable food and too much of it may in the country, from my observation of both localities, be pronounced almost as frequent a cause of its prevalence and fatality there as are the foul airs in the crowded alleys of a populous town. At all events, it has prevailed to a considerable extent in this county, and, as I have had a good many cases under my care, some of which were almost *in extremis* when first seen, I have been urged to present a brief abstract of the treatment instituted, though by no means new to many, which in my hands has resulted so satisfactorily. I am more particularly induced to refer to it now, from having read a note addressed to the editor of the *Medical Times*, by Dr. W. L. Newell, of Millville, New Jersey, announcing the benefits which resulted from chloral enemata in his and his colleague's hands in cases of dysentery in adults. It is the employment of this agent in that form, along with other treatment, among children within the year,—say from six to nine months old,—whose claims to consideration I advocate and desire to enforce with all the earnestness that its merits demand. I was much gratified to learn from Dr. Newell's note that his treatment for adults so fully vindicated

my preconceived impressions of its utility in cases of children. Simple attacks of the complaint in this vicinity readily yielded to a change or diminution of diet, and a cold bath two or three times a day. Others were of a much graver type, the discharges being lienteric, mixed with blood or bloody water, from twelve to twenty occurring in the course of a day, and in some cases the tenesmus so excessive that the moment an enema was administered it was expelled. This spasmodic action of the sphincter and lower bowels could only be controlled by repeated resort to the remedy, two or three applications being requisite before it could be retained, and then only by directing the nurse or mother to compress the glutæi muscles on either side, close over the anal orifice, for two or three minutes. When thus kept in immediate contact with the inflamed, sensitive, and irritable tissue, the benefits were prompt and enduring. Tenesmus, or choreal spasm of the bowel, was arrested, pain and inflammation were allayed, and the little sufferer would rest or sleep comfortably for several hours. A repetition of the enema was made once, sometimes twice, in the twenty-four hours, with increased comfort and alleviation of all the symptoms.

In cases of this kind, as well as others, of course great attention was paid to the preparation of food, so that entozoa, infusorial, or bacterial spores in the fluid used were thoroughly *sterilized*. To accomplish this the milk was added to *boiling water* containing a little gelatin and arrow-root. The milk should not be boiled. A teaspoonful of lime-water should be put in every teacupful of this preparation, which should always be given cold. The amount of chloral used in each application was about two grains dissolved in one or two teaspoonfuls of starch water.

Along with this local treatment, two grains of oxide of zinc and three of lactopeptine in mucilage were given every five or six hours. This combination exerts a happy influence on the primæ viæ, enabling the child to digest its food more thoroughly, and controlling the number while it alters the character of the evacuations in a day or two. We are indebted to Dr. Brackenridge, of Edinburgh, for having first suggested the use of oxide of zinc in these maladies of children,—a detailed statement of cases in which he had successfully employed it being pub-

lished,—and to a more recent article in the *Glasgow Medical Journal* by Dr. I. Crawford Renton and inserted in the last number of *Braithwaite*. Some of the cases in which the foregoing treatment was carried out were of a desperate, apparently hopeless, character, but in all benefit was soon apparent, and the little patients recovered. In no instance was any preparation of opium or calomel resorted to; but I can well understand the advantages claimed for minute doses of mercuric chloride in a well-written article on “Acute Intestinal Catarrh of Infants,” from the pen of Dr. Rudolph Ravenburg, of Washington, D.C., published in a recent number of a New York medical journal; and many cases might occur in which its employment, alone or in conjunction with the treatment already detailed, might be clearly indicated.

Subjoined are the formulas used in the cases referred to.

I may add that the cold bath three times a day was invariably insisted upon, but never at a lower temperature than 80° to 85°.

R Chloral hydrate, ʒss;

Starch water (amylum), ʒij.

M. Ft. solut.

Sig.—Enema. One to one and a half teaspoonfuls to be *thrown* into the bowel from a small glass syringe.

R Zincii oxidi, ʒss;

Pulv. g. acaciæ et sacch. alb., āā ʒij;

Lactopeptin, ʒj;

Aq. cinnam., q. s. ut ft. ʒi.

M. S. A.

Sig.—A teaspoonful every five or six hours.

MONTGOMERY COUNTY, August 16, 1878.

A SINGULAR CASE OF INFANTILE CONVULSIONS.

BY J. F. WALSH, M.D.

AUGUST 22, 1878, I was called in great haste to see M. C., æt. 6 years, when I found the boy in violent convulsions. He was apparently a healthy lad, and on inquiring into his previous history I learned that he had never been subject to fits, nor had he ever had any serious sickness. He had never been troubled with worms.

His mother said that he had been found, about two hours previous, in an open lot in front of a grocery-store, in an insensible condition. Strewed around him was a quantity of spoiled raisins which the grocer had thrown out. He was taken into the store, where he

vomited a few raisins. About a half an hour later, 11½ A.M., he was removed home. My office-hours not commencing until 1 P.M., the family did not send for me until that time. In the mean while he had been in a state of almost continuous eclampsia, having but few remissions. He had not been given any medicine before my arrival; all the mother did was to put him in a warm bath, which, however, did not relieve the symptoms.

When I got to the house his condition was as follows. Whole body convulsed. Unconscious. Cheeks dusky red,—face bathed in sweat. Pupils dilated and insensitive to light; strabismus. Breathing labored. Heart acting very irregularly, fast (one hundred and fifty per minute), and feebly. Slight frothing at corners of mouth. Grinding of teeth. Belly tympanitic.

Believing that the raisins he had eaten were the source of the trouble, I administered, about fifteen minutes after my arrival, during a remission, three teaspoonfuls of wine of ipecac. About a half an hour later he was seized with violent vomitings, and threw up a large quantity of partially-chewed raisins. Immediately the convulsions ceased, he went off into a quiet sleep, and subsequently awoke quite well.

CAMDEN, N.J.

NOTES OF HOSPITAL PRACTICE.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINIC OF PROF. A. JACOBI, FOR DISEASES OF CHILDREN.

(Reported by P. BRYNBERG PORTER, M.D.)

Concluded from p. 560.

HEREDITARY SYPHILIS, WITH OSTEITIS AND PULMONARY INFILTRATION.

ROSANNA G., 9 years of age. Since she was one year old the child has suffered from glandular lesions on the neck and throat, and several times abscesses of this character have been lanced. Up to two years ago she had no nasal catarrh, as far as can be ascertained, but since then she has been very seriously troubled in this manner. There has been an almost constant discharge of pus and blood, with particles of decayed tissue,—and almost from the first, the mother says, the septum of the nose has been affected. The nasal bones have also become implicated, and you notice that there is now considerable deformity resulting. No very clear history of syphilis can be obtained from the mother, as she denies ever having had the ordinary symptoms, but the fact that she has had no less than six miscarriages would leave little ground for doubt that the child now before

us is suffering from hereditary syphilis. One other child besides this one was born at full term, but is now dead. The mother says that it never had any eruption on it. One of the abortions was at the eighth month, and all the others at a considerably earlier period of gestation. Nothing is known in regard to the father.

Perforation of the septum of the nose is almost universally regarded as an evidence of syphilis. Ordinarily, I believe that it is, but at the same time I have seen several instances in which this was not the case. Sometimes the ulceration from which perforation finally results is very superficial at first, but, on account of the peculiar character of the cellular tissue, it goes on slowly increasing in extent and depth. A perforation originating in this manner is usually in the lower part of the septum. Osteitis and periostitis are very common manifestations of hereditary syphilis, and where syphilis has been partially arrested in the parent, bone-disease is frequently the only evidence of the affection seen in the child. Osteitis is more often met with than periostitis in hereditary syphilis, while the latter, as you know, is more commonly met with in the acquired syphilis of the adult.

There is another feature of this case which is quite striking, and that is the unusual prominence of the veins of the neck. This undoubtedly indicates some trouble either with the lungs or the heart, and we will, therefore, proceed to make an examination of the thorax. When the child is stripped you perceive that she is considerably emaciated, and percussion shows that there is marked dulness over a considerable portion of the chest upon both sides. This is more marked over the lower part of the left lung posteriorly and the upper part of the right lung anteriorly. This is certainly not due simply to any pleuritic trouble; for if that were the case there would not be so much obstruction to the circulation as we find present here. On auscultation it is found that there is diminished respiration over a great part of the chest, with some rude breathing at the right apex. When we examine the heart we find that the area of cardiac dulness is much increased, extending farther to the right than normal, and that there is increased shock, while the apex-beat is more to the right than usual. There is, therefore, hypertrophy of the right heart, as we would naturally expect from the condition of the lungs,

which is no doubt chronic; and this is due to the fact that it has more work to do than if the lungs were healthy.

It seems, then, altogether probable that we have to deal here with a specific infiltration of the lungs, and that this has probably existed for years. This condition not infrequently leads to phthisis, and I have not the slightest doubt that a considerable number of cases of phthisis, especially in the cities, originate in the same manner. Hence it is that physicians who are accustomed to meet this class of cases, and who have seen such good results follow a course of mercurial treatment as is frequently the case, have got the idea that mercury is beneficial in all sorts of phthisis. Such, as it seems to me, must be the basis of the opinion that a mercurial treatment is of service in phthisis, and this is, of course, an error; for, while the use of mercury constitutes the best treatment for syphilitic phthisis, it would be about the worst sort of treatment for ordinary tuberculosis.

Our diagnosis in this case, therefore, is syphilitic osteitis and periostitis, with syphilitic pulmonary infiltration; and, under the circumstances, it becomes necessary for us to adopt a persistent but careful course of treatment by mercury. The iodide of mercury produces so much irritation of the alimentary tract as to render its use highly objectionable, and, though the action of calomel is considerably more mild, it is liable to cause too much laxity of the bowels. The bichloride will probably be the best form in which to give the mercury here, and the fortieth or fiftieth of a grain will be about the right dose for the child. Thus, we may order a prescription of one grain of the bichloride to five ounces of water (with a little syrup, if you choose), and of this the child should take a teaspoonful three times a day, about an hour after eating. With this a mouth-wash, composed of half an ounce of chlorate of potassium to the pint of water, should be ordered, and the latter may be employed ten or fifteen times through the day. The gums should be watched carefully, although salivation does not result so frequently in children as in adults who are taking mercury. Still, the drug sometimes produces unpleasant results, and its effect should always be noted with care. If our diagnosis is really correct, and the treatment is faithfully carried out, in the course of two

or three months we ought to expect to find considerable improvement in the condition of the lungs, and, as a result of that, a diminution in the size of the jugular veins.

PROLAPSE OF THE RECTUM.

The last patient whom I shall show you to-day, gentlemen, is a little boy three and a half years old. The mother states that somewhat more than a year and a half ago she noticed that the bowel began to protrude after defecation. The tumor thus formed by it soon became as large as an egg, and is now of even considerably greater size than that. It was formerly of a deep-red color, but is now of a much paler hue. It is a significant point in the history, that the child suffered from diarrhoea during all the summer preceding the prolapsus.

The mother tells me that during this time he often had ten and twelve movements of the bowels in a day, and that the evacuations were copious and passed without straining. The last fact would seem to indicate that there was no local cause for the diarrhoea, like a catarrh of the rectum. In this condition there is an over-secretion of mucus and serum, and sometimes a little blood is passed, whence it is frequently described as catarrhal dysentery.

It is probable that there is no polypus here, but that we have to do simply with a well-marked prolapsus of the rectum. When the bowel thus habitually protrudes after defecation, certain changes take place in its walls. There is a swollen condition of the follicles, and also of the mucous membrane, which becomes much thickened, and there is a rapid throwing off, as well as reproduction, of the epithelium. There is an increased secretion of mucus, as one would naturally suppose, and not infrequently there is some paralysis resulting. When the bowel has come down a number of times, the sphincter ani muscle grows accustomed, as it were, to the protrusion through it, and the bowel becomes swollen all the more after passing it.

In a recent case of prolapsus of the rectum the injection of ice-water is often sufficient to effect a cure, but where this fails we may resort to zinc or alum. One of the best applications is the nitrate of silver, either in stick or in solution of greater or less strength. In whichever form it is employed (and even if only a weak solution is used), it should be immediately neutral-

ized, because otherwise it is almost certain to give rise to extreme tenesmus, and when this occurs it only aggravates the difficulty instead of assisting in its removal. Finally, the actual cautery can sometimes be used with good effect in these cases; and when there is only a paralysis of the sphincter ani, there is nothing of so much service as *nux vomica* or *strychnia*.

Where we have the opportunity (as in private and hospital practice), the most prompt and efficient method of accomplishing a cure, by means of the latter, is to employ it hypodermically, using about the one-sixtieth of a grain every day in this manner.

In this case, when we come to look at the parts to-day, we see that the bowel is now entirely up within the anus. On introducing my finger, after oiling it, into the rectum, I find that there is no polypus present, but that the bowel is everywhere soft and flabby. When the child has a passage, the mother says, the bowel begins to come out before the *fæces* appear; and this shows that the sphincter is not in a condition to withstand any pressure upon it. When the rectum is down it protrudes fully three inches from the body, she tells me. By way of treatment here I shall order, in the first place, a large injection of cold water every night and morning, which will have the effect of keeping the passages soft, and so less liable to force the bowel down, and will also, I trust, give more tone to the rectal walls. In addition, I will advise the use of an ointment composed of a drachm of the alcoholic extract of *nux vomica* rubbed up with an ounce of fat. Of this the mother is to apply a piece about the size of a bean whenever the bowel comes down, or three times a day whether it protrudes or not.

TRANSLATIONS.

BLOODLESS OPERATIONS UPON THE TONGUE.—Langenbuch (*Cbl. f. Chirurgie*, 1878, p. 400; from *Arch. f. Klin. Chir.*) operated in two cases, as follows. The tongue being drawn as far as possible out of the mouth, a long curved needle, armed with a thread, was inserted perpendicularly into the back of the tongue in the median line, some two or three centimetres back of the posterior boundary of the tumor. From

there the needle was carried at a right angle to the long axis of the tongue circularly around towards the ramus of the jaw, and then, penetrating through the mucous membrane of the floor of the mouth, was brought back into the oral cavity. In order to give the loop as immovable a position as possible around the muscular tongue, the right border of the tongue was included by the needle in bringing it out. The other half of the tongue was included in the same manner. The ligatures included in each case a little of the tissues on the other side of the median line; they were drawn together and knotted, the ends, which hung out of the mouth, serving to draw out the tongue. Thus the operation could be performed without loss of blood. x.

SYMPTOMS AND TREATMENT OF PSORIASIS UNIVERSALIS.—Kaposi (*Cbl. f. Chirurgie*, 1878, p. 406; from *Wien. Med. Wochens.*) depicts the appearances presented by psoriasis universalis where the efflorescence is interrupted by very small islands of sound skin or by none. Under these circumstances the affection may easily be mistaken, by those unaccustomed to the diagnosis of skin diseases, for pemphigus foliaceus, lichen ruber, or pityriasis rubra. Even specialists may sometimes confound this form of psoriasis with eczema universale. While until recently prognosis of such cases has always been unfavorable, Kaposi has of late succeeded, by the employment of cod-liver oil, of inunction, of baths, and of caoutchouc clothing, in obtaining very good results,—that is, of temporary cure. For instance, cases are on record where, after a course of cod-liver oil, terrible eruptions of eczema followed the psoriasis. In these cases care must be taken to stop the oil in due time. Continuous baths, also envelopment in bandages covered with ung. diachylon, prove useful in these cases. x.

INJECTION OF TINCTURE OF IODINE INTO THE KNEE-JOINT.—Orlow (*St. Petersburg. Med. Wochens.*, 1878, No. 12) has in ten cases punctured the synovial sac, drawn off the fluid, and injected dilute tr. iodine (1 to 3 parts water). After a few moments a portion of the injected fluid was allowed to escape. The reaction was not severe, the patients were treated in the out-patient clinic, and needed no further treatment. Eight of the cases were of serous synovitis, and two of gonitis sero-purulenta. x.

UTERINE MYOMA—SUBACUTE PERITONITIS FOLLOWING SIMPLE VAGINAL EXAMINATION—DEATH.—A. Poncet (*Cbl. f. Chir.*, 1878, p. 391; from *Gaz. Méd. de Paris*) had under his care a woman suffering from a voluminous uterine myoma. A few hours after a simple vaginal examination had been made, the patient was attacked by peritonitis, of which she died within forty-eight hours. Notwithstanding the fact that the various symptoms of peritonitis, swollen abdomen, severe pain upon the slightest pressure, continual vomiting, etc., were present, the post-mortem examination showed no signs of inflammation, excepting some four to five hundred grammes of sero-sanguinolent fluid in the cavity. The author considers the case one of septic peritonitis. x.

PENETRATING WOUND OF ABDOMEN—RECOVERY.—Pierantoni gives the case of a girl of 18 who received a penetrating wound of the abdomen. The intestines protruded and were wounded, and the external wound bled considerably. The wound of the intestine was sewn up, and then the abdominal wound was closed. A few days later, meteorism, vomiting, etc. The wound came open and some masses of feces escaped. After this the patient's progress was favorable, and she was quite well within twenty-six days from the operation. x.

PREVENTION OF HEMORRHAGE AFTER THE USE OF ESMARCH'S BANDAGE.—It is generally regarded as one of the chief drawbacks to the employment of Esmarch's bandage that hemorrhage, often of an exceedingly stubborn character, is so apt to occur after operation. M. Riedinger has sought to avoid this unfortunate complication by the use of the induced current. This appears to possess the property of arresting consecutive hemorrhage even when ischæmia has existed some time, a result which seems to depend upon the contraction of the muscles and of the vascular walls. R.'s procedure is as follows. Having finished the section of the tissues and tied all attainable vessels, he submits the wound to the influence of the induced current, the electrode being armed with a sponge, for some moments, and then, removing the tube of the Esmarch's apparatus, secures those vessels which continue open. His success in numerous cases has been very satisfactory.—*Le Mouvement Méd.*, 1878, p. 263; from *Arch. Méd. Belge*. x.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 14, 1878.

EDITORIAL.

MARINE HOSPITAL SERVICE.

THE report of the Supervising Surgeon-General of the Marine Hospital service, Dr. Woodworth, which is just at hand, contains much matter worthy of the study of every one interested in the hygiene of water transportation, or of sea or fresh-water ports. On the whole, it is an earnest, manly document, and its suggestions seem to be worthy of most careful consideration. We have one criticism, however, to make. In an official report, and especially in one discussing proposed measures of reform, the tone should be not so much that of advocacy as of calm, judicial weighing of advantages and disadvantages. Hence the utmost care should be taken that no incorrect assertions are made. The two most important measures proposed by Dr. Woodworth are—first, the erecting of marine hospitals in such cities as New York and Philadelphia, and the abolition of the time-honored practice of boarding sailors in civil hospitals; second, the introduction of physical examinations of merchant sailors. In the discussion of each of these measures there are statements concerning the very vital question,—that of expense,—which we believe can scarcely be sustained.

Thus, in regard to the first, we read (page 9), "This would not add to the cost of the service the amount of salaries of nineteen additional medical officers, as might at first be supposed, as, at ports where medical officers are not stationed, the pay for medical attendance is counted as part of the per diem rate, which embraces the cost of board, nursing, and medicines." We cannot speak for all the ports, but we know that in Philadelphia, and we presume

that in every large city of the nineteen ports, the seamen are treated in large civil hospitals, where there is no pay for medical attendance, and no interest upon the cost of erection; they are taken also at a rate which does not compensate the actual average outlay upon patients. The hospital has to be heated, lighted, and officered whether the sailor is or is not in its wards: hence it is considered economically wiser to receive the marine hospital protégé at a little above the actual cost of the food and medicine consumed than not to receive him at all,—a conclusion clinched usually by the earnest desire of the medical staff to have as wide a range of cases for study as possible.

Under these circumstances it is very obvious that erecting and sustaining hospitals in Philadelphia and similar places would add very materially to the expenses of the service, provided of course the food, etc., were as good in those hospitals as the sailors now receive. Again, in these same city hospitals are found large staffs of the most eminent men of the profession, devoted each to some special branch of medical science; a band whose collective wisdom and skill certainly must be much greater than that of the single marine hospital surgeon, who would unite in his own person all the medical and surgical knowledge and skill available in the proposed hospital.

It certainly is very clear that there are many disadvantages in the proposed change, and the report of Dr. Woodworth fails to make apparent any at all commensurate advantages other than the magnifying of the number and importance of the marine hospital service, and the supporting by government of an increased number of physicians,—the last, indeed, a result, in the present overcrowded state of the profession, devoutly to be prayed for.

The discussion of the second reform urged by Dr. Woodworth is chiefly from the pen of Dr. P. H. Bailhache. Some of the argu-

ments which he brings forward in favor of it are extremely forcible, but chiefest of them all is that which is derived from the greater safety to be secured for vessels with their living and lifeless freight. If it be true that "bad sailors more than bad ships are the causes of losses," then the instinct of self-preservation certainly demands that sailors should be carefully selected, whatever difficulties may lie in the way. These difficulties seem, however, underrated by Dr. Bailhache. To be trustworthy, this examination must be made at least every time a sailor ships, and so we understand the proposition to be. This being the case, does not the following quotation contain an error?

"No expense to the government, to the seaman, or to the vessel attaches to this measure. The machinery for its economic and successful management already exists. The Marine Hospital Service, through its medical officers, can readily assume and perform all the duties required in making such an examination," etc. Now, it is notorious that no marine hospital service at present exists at many of our large cities, and, if it be created, the physician who is occupied with the sick cannot spend his time examining recruits.

How many surgeons would have to be added to the service in New York City alone? It would certainly be unjust to make the hospital fund pay this expense,—especially as the legitimate hospital expenses already are in excess of the receipts, as is shown by the fact that the surplus with which the year 1875 was started has been reduced at the close of 1877 about fifty-five thousand dollars, or, in other words, that during the three years named the annual expenses of the service have exceeded the annual receipts, on an average, eleven thousand dollars.

There is one point of view which, we believe, is not touched in the report of the Supervising Surgeon,—the justice to the individual sailor. The soldier and the

government sailor undergo a rigorous examination when they enter the service, but they are not forced to give up their livelihood when their physical condition begins to be impaired. There is no adequate provision for the merchant sailor when disabled. Often he must pursue his avocation unto death, or become pauperized. Now the question arises exactly at what point of physical disablement has society, represented by the government, the right to step in and say, "Our safety requires that you should be debarred from following the sea. You are used up, and can go to the poor-house, or do the best you can for yourself." It is true that society practically carries out this policy in various dangerous trades, but it enforces judgment not openly, but through what seems to the victim inevitable physical necessity. Surely before the pitiless law crystallizes in black and white upon the statute-book, a much wider and deeper discussion should be had than is afforded by the report of the Supervising Surgeon.

CORRESPONDENCE.

LONDON LETTER.

THE chief matter of medical interest recently has been the annual meeting of the British Medical Association. This, the forty-sixth of the Association, and the third visit to Bath, was not expected to be a monster meeting; nor was it so. It was a moderate gathering numerically and intellectually, except Prof. MacKendrick's demonstrations of acoustics and Mr. Wheelhouse's address in surgery. Bath has seen its palmy days, and is beginning to present evidences of senile decay; yet its magnificent spring will always keep a certain number of people about it. Placed in an amphitheatre of hills, it is a warm, steaming place, and is a capital winter resort; but in August this does not constitute an attraction. Nevertheless, the meeting went steadily to work. The recent death of the outgoing president, Dr. Eaton Wilkinson, of Manchester, deprived us of the pleasure of seeing him vacate the chair in favor of his successor, Dr. Wilbraham Falconer, the well-known physician of Bath, and for years the respected treasurer of the Association. He contrasted the present condition of the Association with what it was when last there, in

1848. Then its transactions were over in two days, there were only 1400 members, and its income was only £1400. Now six days are taken up fully with its annual doings, it numbers 7500 associates, and its income last year was £11,500. (In 1848 it had only the guinea of each subscriber; now there are the advertisements in its journal as a source of revenue.) Out of its present receipts grants can be awarded for the purpose of encouraging scientific research; and Dr. Falconer referred to the work done by the late Prof. Hughes Bennett, by Professors Rutherford and MacKendrick, Dr. Braidwood and others. After reviewing the progress and present position of the Association, the president went on to describe Bath. He said it was a city which was resorted to for its social and educational advantages as well as for its notable spring. Recently remains of Roman architecture, in the form of a large bath two hundred and forty feet in length and one hundred and twenty in breadth, have been found, which attest the fact that at that time the spring at Bath was one of repute and distinction. Athelstan, Edgar, and Osric, Saxon kings, visited Bath and enriched it by gifts of gratitude for the benefits they had received therefrom. This spring is no mite of a thing: it discharges daily no less than 181,440 gallons; and the solid matter discharged in a year amounts to 420 tons, or about one ton and a quarter per diem. It comes up at about an average of 115° F., and is uncomfortably warm to the hand. There is a large and spacious pump-room, with an outpour as from a two-inch pipe, and this steaming fluid is drunk by the visitors in the morning fasting. This water is stimulant especially to the secretions, and acts on the bowels and kidneys. It is apt to produce headache if taken at all freely. In atonic gout the water is very efficacious, but is not suited for acute attacks. In chronic rheumatism it often achieves a cure where all other remedies have failed. There has been established a mineral water hospital for the treatment of gout, rheumatism, and paralysis. The fact, which was clinically observed, of paralysis being relieved by a course of Bath waters, is very interesting, showing as it does the association of paralysis with lithiasis and the condition of arteries and heart found therewith. At the Mineral Water Hospital the Sections on Medicine, Surgery, and Public Medicine were held, and in the room where the Medicine Section held its meeting there is an old picture of a physician and surgeon seeing patients with rheumatic gout, paralysis, and leprosy: the surgeon is feeling the paralytic's left hand very awkwardly, while the right arm hangs helplessly down. The peculiar pallid skin of chronic Bright's disease is very happily caught by the artist, and the man clearly has a clot in Broca's convolution. The thickened joints of a woman are also faithfully

depicted; and a little boy, with a shaven head and a fisherman's woollen cap on, has on his arms an eruption, but what form of lepra I do not know. I asked Mr. Jonathan Hutchinson about it, and he said he would look at it and tell me; but I have had no opportunity of seeing him since this conversation, so cannot in this letter say any more about it. Such, then, are the maladies for which Bath waters are in repute.

Then the secretary read the annual report; and a very satisfactory one it was. He announced that the invitation for the Association to visit Cork next year had been accepted, and Dr. O'Connor, of that city, had been elected president-elect. Seven hundred and odd new members had joined during the year. New branches had been formed; and the first colonial branch had been started in Jamaica. Grants had been voted for scientific research and for the systematic investigation, by a committee, of hydrophobia and rabies. Mr. Middlemore, of Birmingham, had generously given £500, the interest of which shall be awarded triennially for the best essay on the progress of ophthalmic medicine and surgery. A circular had been issued to every board of guardians, asking them to recognize the importance of registering all outbreaks of infectious disease and sending copies of reports to the Registration of Disease Committee. The Association had also taken the most active interest in the medical reform bill recently before Parliament. It is an unspeakable relief to know that this bill has been thrown out this year, and is not likely to raise its head again for some time; and in the interval possibly something like a decent comprehension of the matter may be developed; for, although medical reform has been talked about since the writer was a child, most men seem glad that the different prospected bills have perished *in ovo*.

On Wednesday morning the work went on briskly, the address in the Medicine Section being given by Dr. Goodridge, the senior physician to the hospital. He reviewed our present knowledge of those pyretic processes called "fevers," their causation, the changes set up in the organism, and the consequences thereof. If all this were worked out and known, probably the difficulties in the way of rational treatment would be much reduced. "The doctrine of despair" was to be reprobated, and passivity might well be exchanged for the most active investigation, with advantage. In the afternoon the Sections went to work, and in the Medicine Section a discussion as to the diagnosis and treatment of intestinal obstruction attracted a crowded audience. The only part of the discussion which had any claim to novelty was the advocacy of surgical interference not only in order to unloose twisted folds of gut or unravel a volvulus, but for the purpose of ascertaining exactly the nature and relations of other

obstructions, including malignant growths, and of giving relief by the performance of Amussat's or Littré's operation. The recent experience of ovariologists has shown that exploratory incisions could be made into the abdomen with comparative impunity, especially with antiseptic precautions. We are "not losing our respect for the peritoneum," as Mr. Wheelhouse said, next day, in his surgical address, but certainly we are losing our timidity about interfering with it. The introduction of this feature of a discussion on some special subject is of recent date, and though these discussions have so far brought out nothing original, they enable a large number of the profession to hear the latest words that have been spoken on the subject, by what falls from the various speakers. The ad interim report of the Hydrophobia Committee was then read by Dr. Gowers. In the Surgical Section the papers were all connected with the bones, hip-joint disease, and subcutaneous section or excision, and spinal curvature, especially as to the use of the plaster jacket therein. It must be gratifying to American surgery, and personally pleasing to Dr. L. Sayre, to know how general has been the adoption of his plan of treatment, and the success that has been achieved thereby. In the Obstetric Section a number of papers were read, but none of them were of such interest as to call for any allusion to them. In the Public Medicine Section the papers ran on the compulsory registration of infectious disease; but unanimity of opinion was not attained. The feature of the Physiological Section was the address on Physiological Acoustics, by Professor MacKendrick, of Glasgow, who has recently published an admirable text-book of physiology for the use of students. He pointed out how the increasing rapidity of air-vibrations produced a tone by the use of Helmholtz's siren, and showed how a noise differed from a musical tone, the latter being due to regular vibrations. He then demonstrated how the flame of a gas-jet could be shown by a revolving mirror to be a steady line of light till the note to which each flame corresponded was struck, and then the flame became a series of lambent tongues of light. The lucid exposition of the professor, and his admirable manual dexterity in making his experiments successful, evoked a general request that he would repeat his experiments next day, when a large audience warmly applauded his lecture.

In the evening there was the usual conversation, given by the mayor and citizens, and not by the president and the members of the Association, this year, which was largely attended. Of course there were the geological sections of the city and neighborhood, fossils, prints of Bath in its palmy days, the phonograph and telephone, and a large muster of the aborigines. The girls of the west of England are said to be "poor, proud,

and pretty." As to the two first, nothing may be affirmed; but certainly as to the third attribute there was no positive evidence; but that might be due to the large infusion of outsiders who have come for various reasons to reside at Bath. The original feature was a quantity of Bath waters in bottle,—the first step in an attempt to introduce them into general use. The attempt may be successful, but the water is heavily handicapped as a beverage. It is not palatable even when cold and aerated. It cannot compete with the continental waters either as a beverage on the one hand or as a purgative water on the other. It is not pleasant enough to drink, and most people will prefer something shorter as a purgative. It may be questioned whether patriotism, in its present enfeeblement, will procure a sale for Bath water, unless its reputed stimulant qualities can attain for it a demand among the temperance party.

The usual temperance breakfast, under the presidency of Mr. Samuel Bowley, came off next morning. About one hundred and fifty were present. It may be asserted confidently that such an attendance does not faithfully represent the attitude of the profession, and it is impossible to escape the conviction that the chief factor in such an attendance is that it saves a breakfast in the hotel bill. The next factor is the prospect of some amusement. This year there was not much of the latter, and the only thing said likely to live was the writer's remark, in recommending the temperance body not to oppose the physiologists by stating that alcohol was not burnt in the body, "that the food-value of alcohol taken as a beverage was scarcely worth contending for: that before a man could make a substantial meal of alcohol he would be blind drunk." These breakfasts are useful enough, but there is rather too much of the setting up of teetotallers, not always even medical men, to tell the profession what the right view of the alcohol question is, than a following out of the programme, viz., to ascertain the views of the profession on the subject of the use or abuse of alcohol. Nevertheless, the profession are always glad to see Mr. Bowley on these occasions.

On Thursday morning Mr. Wheelhouse gave the surgical address, which was in every way worthy of him and the Leeds school which he represents. He traced the gradual growth of modern surgery, using illustrative cases from his own experience or that of his colleagues, giving to them that generous credit which is not always accorded to colleagues who are also rivals in practice. It is simply impossible to follow this address, or attempt any abstract of it; but a brief allusion to the last case he gave may be permissible. A man, in crossing a fence with a scythe, got a wound of the buttock, the scar of which is still nine inches in length. The sciatic nerve was completely severed, the

limb was a flail, and he presented himself at the Leeds Infirmary to have the useless encumbrance removed. Dr. Clifford Allbutt found that the muscular susceptibility to the faradaic current was all but extinct. Mr. Wheelhouse cut down and found the nerve-ends two inches apart, with a large ganglion of nerve-matter, etc., on the proximal ending. This was removed, and an attempt was made to approximate the nerve-ends by longitudinal sutures. To achieve this the leg had to be flexed to the utmost, and the ankle strapped to the buttock. Then it became possible to get the ends together. First came back some sensibility, then some motor power, and now the man is able to work for a living, though the injured leg is not yet equal to its fellow.

There was little of interest in the Sections, the most entertaining matter being the discussion on syphilitic neuroses in the Medicine Section. In the evening the public dinner was held, at which were present Dr. Marion Sims, Dr. Daly, of Pittsburg, Dr. W. H. Pancoast, of Philadelphia, Dr. Cleaver, of Keokuk, Iowa, and Dr. J. J. McAngear, of Fort Madison, Iowa. Dr. Marion Sims and Dr. Daly replied for the toast of "The Guests."

On Friday morning the address in Forensic Medicine was given by Prof. Douglass MacLagan, of Edinburgh. After describing how much more forensic medicine was studied in Scotland than in England, he proceeded to contrast the criminal procedure of Scotland with that of England. He upheld the view that it was the duty of the state to prosecute, and he inveighed against the present system in England. In Scotland they had a public prosecutor, while in England the cause of death was ascertained, or attempted to be ascertained, by a coroner,—an officer, he said, of Plantagenet times, who was aided by a jury who were the neighbors of the injured person, and who therefore knew something about the cause of death. He did not approve the modern idea of medical coroners. He thought the lawyer on the bench and the doctor in the witness-box constituted the right men in the right place. He thought English jurisprudence might take a hint or two from the Scotch usefully. Meanwhile the Sections had been going on without much interest, except a paper by Dr. Bell, of Bradford, on wool-sorter's disease. This is a form of acute septicæmia, which may prove fatal in seventeen hours. It occurs when moist wool or alpaca is being sorted, and if the wet bales are allowed to dry, all danger is avoided. The septic particles seem to be inhaled, and, if death is not so rapid, lung-symptoms are developed along with the general condition of septicæmia.

In the afternoon the mayor gave a garden-party in his beautiful grounds on the top of one of the numerous high hills which surround Bath. Some exquisite iced coffee and cream was served out to the guests on their arrival, and after that there followed ices, champagne

cup, and other good things which suit the inner man at the later stages of a week like this. The evening closed by a concert at Colston Hall, Bristol, given by the Bristol doctors, where there was excellent music. A special train ran the medical freight back and forwards. This closed the meeting, and next day everybody was off, either on the excursions or otherwise. But a word or two may not be out of place about Bath in addition to what Dr. Falconer said. Bath is a staid town, and its chief characteristics are propriety and piety. A staidness is seen everywhere. There is religious gravity in the air, as there is moisture in the atmosphere. Its sombre terraces, its serious-looking houses, the numerous tablets in the Abbey, all tell of grave and earnest women: very genteel poverty flourishes there and rules the town council. Respectability and seriousness are the two leading indications of Bath, and this ought to be made the most of. Such concomitants of the spring ought not to be overlooked, then, and in their advertisements on the labels of the newly prepared bottles of Bath waters should be printed, in black type, "the religious watering-place." The people who would be at home at Bath would have little affinity for the light and thoughtless gossipers who congregate at Harrogate and Homburg, who are not only in the world but "of the world." Such being the case, it seemed specially unfortunate that this "city of the sea" should have been chosen as the place where the vote of the Association should be taken as to the admission of women members. If the advocates of their admission ventured to hope that the guardian spirits of Bath would be favorable to their cause and dishearten their opponents, they were very much mistaken. And though the speeches were not very convincing, and Mrs. Garrett Anderson made an eloquent and vigorous speech, the conclusion was evidently a foregone one: the opposition was overwhelming. The ladies have lost the privileges of the membership, and really one does not exactly know whether they should be congratulated or commiserated with: they at least have been saved, even if by their opponents, from being wearied by having to attend the Sections, or being bored by the reports of special committees, and still more from the terrible penance of listening to the after-dinner speeches of the annual banquet. Their lot may be a hard one, they may have been very badly treated; but there are those who think that they ought to draw a long breath of relief at the thought of what they have escaped.

The hospital at Bath, as also the Exeter Hospital, is a century old, of the days of palatial buildings, with the feelings of the architect the great matter for consideration, rather than the form of building best suited for checking the spread of pyæmia. Both hospitals are well ventilated, and kept very clean and free from hospital smell, and the patients looked

well fed and happy, as the denizens of these two rich sunny counties should be.

Instead of joining any of the excursions as usual, and leaving the British Medical Association to go its way, my steps were turned to Wonford House, Exeter, the asylum for the middle and upper classes of Devonshire, Cornwall, Dorset, and Somerset. It took its origin "at a meeting of the grand jury, held at the castle of Exeter, the 16th day of March, 1795, Sir Boucher Wrey, Bart., foreman, in the chair." A subscription was opened and a meeting held on the 29th of July, 1795. Some of the rules then passed contrast the treatment of the insane at that time with their present management very strongly. Rule 2 is, "No patient shall be chained or handcuffed without the previous knowledge and approbation of the physician or apothecary." It is possible to suspect, however, that general orders were often given by the physician or apothecary, for we read another rule, "The physician and apothecary shall visit the asylum every Tuesday morning at twelve of clock, and oftener when any urgent case shall require peculiar care and attention." Now there is a trained medical superintendent resident, and there is not a strait-waistcoat, even, on the premises. Other measures than brutal violence are now found much more efficacious. There is another rule which has an ominous look about it; it runs thus: "that the feet of every patient under confinement or in straw be carefully examined and rubbed and covered with flannel every night and morning during the winter months." This calls up some painful suspicions as to what refractory and excitable patients had to go through in the days of old. Now such things are unknown, even in pauper asylums, to say nothing of the denizens of Wonford House. A beautiful three-story building of ornamental character, it stands about a mile from Exeter, with a range of hills across the Exe facing its front. In its grounds are targets for archery, and hoops for croquet, and the attendants and patients at cricket enjoy themselves famously in the balmy air of South Devon. Inside are drawing-rooms, music, billiards, every home comfort that can make the patient feel the restraint as little as possible. But still beneath this silken glove there is the iron hand. Sitting with a grand old parson, mad as a hatter, but a gentleman withal, I tried to throw the window a little farther up: it successfully resisted my efforts, when the old boy, with a chuckle of much inward satisfaction, said, "Don't you remember you are in a mad-house?" Those windows have nothing repulsive about them, but the suicidal patient has no chance of getting out either of the house or his troubles by the open window. Then the superintendent is a cultured gentleman, who sympathizes with every one of these mad folks and makes their captivity as little galling to them as is possible. We went out

for a drive the other day, with two or three of the poorer patients, whose friends cannot afford drives, with us. There may be a strain of insanity in me, but the insane are far more interesting and entertaining to me than the sane,—infinitely more so. And if ever this latent strain develops into something more pronounced, I trust some connection with the four western counties will be established, in order that Wonford House may be my home during the period of my mental alienation. With these gentle, pleasant Devon patients to associate with, and this thoughtful, able doctor to look after me, insanity and captivity are robbed of half their terrors. In such a place the insane are infinitely better off than at home, even if surrounded by luxuries and kind and sympathizing friends. Gentlefolks carry their training and their evidences of good breeding with them even beyond the portals of an asylum; and the courteous Devonshire people are amiable and lovable even in their madness. Their character harmonizes with their pleasant landscapes, their balmy temperature, their sunny skies, for Devonshire is indeed "the garden of England;" while the beauty of the girls, with their dark locks, their bright eyes, and clear complexions, is linked with a stalwart bearing, manly yet gentle, of the men,—the men truly of Charles Kingsley's "Westward Ho," the crew of the Rose. As I sit at the open window, with the breeze rustling amidst paper and fluttering leaves both of open books and ferns, the prominent feeling is that this place is as near Paradise as man may hope for in his unglorified state. A well-conducted lunatic is the most agreeable of all companions, when the mental aberration is just sufficiently pronounced to give piquancy to the character. The sylvan beauty of the scene, the clear blue sky flecked with white clouds, the inspiring breeze, all conduce to the feeling of inward satisfaction, and raise high the anticipations of pleasure to be derived from an excursion up the Dart with some of these interesting patients as companions. But my letter must come to an end, as these personal details can scarcely be interesting to readers in search of medical details. One item may be pardoned. This morning, as the doctor read the record of his tell-tale clock, his face was clouded for a moment. On inquiring if anything was amiss, he smiled, and said, "No: this is the clock's fault." It must be a very clever tell-tale clock that can indicate its own shortcomings!

J. MILNER FOTHERGILL.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES:

DEAR SIR,—At a recent meeting of the New York Academy of Medicine, Dr. Lewis S. Pilcher read a paper upon the subject of Colles' fracture, the chief point of interest being the theory which he advanced as to the mechanism of the production of this injury.

He rejected the commonly received explanation that the radius, being caught between two counter-forces, gives way at the weakest point, about one-half inch from its lower extremity, but asserted that the force immediately concerned in producing the fracture acted through the medium of the anterior radio-carpal ligament. Forcible extension of the hand being made, this ligament becomes tense, and if the strain is continued, either the ligament must give way or the radius, which is in the position of a bent lever of the first class,—the fulcrum being the posterior surfaces of the scaphoid and semilunar bones,—must suffer fracture.

This was followed by an exhibition of some specimens in which the fracture had been produced in the above manner.

In the discussion which ensued, Dr. Frank H. Hamilton remarked that he was "proud to know that it was an American surgeon who had made the observations, and felt highly honored that the New York Academy of Medicine was among the first medical societies to which these observations had been unfolded." Dr. A. C. Post suggested "that the fracture should be called Pilcher's fracture instead of Colles' fracture." Dr. Willard Parker had "listened with profound interest, and had been much instructed by Dr. Pilcher's paper," etc.

As these distinguished surgeons estimate so highly the value of this explanation of this common accident, it may be interesting to note that substantially the same theory has been taught for years at the University of Pennsylvania by a Philadelphia surgeon. In my notes on the lectures of Prof. D. Hayes Agnew I find that he defines Colles' fracture to be "a transverse fracture of the radius occurring just above the articulation," and says that while "Barton's fracture—or a fracture extending into the joint—is caused by direct pressure of the carpal bones on the posterior rim of the articulating surface of the radius," yet that the conditions in Colles' fracture are different. "In falls on the hand when it is strongly extended, the posterior—not the articular—surfaces of the scaphoid and semilunar bones are driven up against the radius and form a fulcrum. The anterior ligament (radio-carpal) is brought up strongly and with great tension against the front of the articulation, and as it (the ligament) usually resists the force, the solution of continuity takes place at the point to which the strain is transmitted, which is the lower end of the radius, a short distance above the joint."

This explanation is also that given by Dr. Agnew in his "Treatise on Surgery," the first volume of which is now in press and will be shortly forthcoming. If there is any credit in priority in these observations, and if there is any reason for a particular community to feel honored by them, the credit and the honor belong here and not in New York.

Yours truly, J. WM. WHITE.

222 SOUTH SIXTEENTH STREET, August, 1878.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JUNE 13, 1878.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Cancer of the right kidney—Thrombosis of ascending cava and left renal vein. Presented by Dr. JOHN GUITÉRAS.

HENRY F., a German, æt. 68. Admitted to the Philadelphia Hospital the 27th February, 1878. His legs were swollen, hard, shining. Eight or ten ulcers, about the size of dimes, could be counted on each limb. They were surrounded by a dark purplish skin, showing no tendency to heal. The swelling extended up beyond the popliteal spaces. It was more marked in the left leg. He was anæmic, short of breath, without any thoracic lesion apparent. The gums were spongy, the teeth loose, his diet bad, his residence the out wards of the hospital, where scurvy abounds. As a case of scurvy the man was treated, and improved much. He gained in vigor, in flesh, and in color. The ulcers healed, leaving some indurations. The right leg returned to a normal size, and the left was almost as much reduced. Now it was found that the horizontal position was necessary to keep the legs in this condition. If he stayed up they were sure to swell. Outside of this, and an occasional accident that will be mentioned shortly, he appeared in very good health, had very good color, and was the most cheerful patient in the ward; had no pain whatever; no albumen; no casts in the urine. The belly was large, but nothing that might not be normal. The liver was large, and the superficial abdominal veins were somewhat distended. The heart was fatty, though not to a marked degree. An anæmic murmur at the base disappeared under treatment. While in the wards he had two severe attacks of hæmaturia, relieved by ergot and gallic acid. They left no trace behind.

The third and last attack commenced on the 20th of May. He was in bed, getting over a slight swelling of the legs, brought on by sitting up for two days. I did not see him at this time, but I gather from the notes of Dr. Roberts, the resident physician, that on that day the urine became dark and clotted in the vessel. On the 21st, "Passed no urine in twenty-four hours; bladder rose high up in the hypogastrium; passed a No. 20 catheter, and removed, by aspiration, about two ounces of clots. This was followed by the discharge of about fourteen ounces of bloody urine. In spite of astringents and hypodermics of ergotin the hæmaturia continued. On the 23d the hemorrhage was so

great, and the condition of the patient such that, as a last recourse, Dr. Bruen suggested the injection of a weak solution of Monsel. The hemorrhage was controlled, but the weak pulse did not improve, and he soon commenced to vomit. He continued to pass very small amounts of dark-colored urine."

May 26.—I saw him, and found distinct symptoms of uræmia. He lay unconscious, with stertorous breathing, and occasional twitching of the right side, face, and arm. With the right hand he continually scratched the chest and abdomen. The left side seemed to be paralyzed. There was rotation of both eyes, and slight turning of the head to the right. The face was not engorged. The pulse had become slower and full. The legs were not more swollen, but the superficial abdominal veins were more distended than usually. The temperature was subnormal. He died the same day.

The post-mortem examination revealed a general infiltration of the right kidney, with encephaloid cancer. The organ was uniformly enlarged to the size of a foetal head. There was no cancerous growth elsewhere. The vesical plexus of veins contained coagulated blood. A yellowish, firm, partially-adherent coagulum extended up the internal iliacs and the cava to the level of the renal veins. A firm, loose plug was found obstructing the left renal vein. The brain was anæmic and oedematous. There was no marked atheroma, no hemorrhage, no embolus, no thrombosis.

Remarks.—I am sorry that a more careful examination was never made of this patient. His general condition excluded all idea of abdominal cancer, though the persistent swelling of the feet pointed in this direction, together with the hæmaturia. The theory of scurvy seemed to explain all the symptoms, and an examination of the abdomen was neglected, which would certainly have led to the discovery of the tumor.

I thought that an occlusion of the cava and renal veins was the only condition that could give rise to the symptoms present before death, especially after taking into consideration the injection of Monsel into the bladder. Of course I expected to find that the function of both kidneys had been interfered with by the clot. I also expected to find some obstruction in the cerebral vessels.

In the discussion on the diagnosis of renal enlargement, Dr. Guitéras said that his own and the other cases presented should be used as evidences, not of the impossibility of detecting renal enlargement, but of our neglect to look for it. He was sure that in the great majority of these cases the region of the kidneys had not been examined. He remembered a case where Dr. Pepper had diagnosed, by physical exploration, a nephritic abscess in a case where the symptoms could be well accounted for by an empyema that was also

present on the same side. He thought that palpation gave valuable information as to the size of the kidney. He had found that by frequent percussion he could always satisfactorily map out the organ. Very often in the first examination no results could be obtained, but subsequently one became able to recognize the changes in the conditions of collapse and inflation of the surrounding guts that act as obstacles to the examination.

Colloid cancer of the abdomen. Presented by
DR. THOS. M. DRYSDALE.

I visited Mrs. Margaret M. Rice, in consultation with Dr. William B. Atkinson, October 30, 1877, to examine a tumor of the abdomen, which was supposed to be ovarian. She gave me the following history of her case. She was thirty-three years old; had always been healthy, except an attack which her medical attendant called "bilious intermittent fever, with liver complaint." This was twelve and a half years since.

She first menstruated when between sixteen and seventeen years old, and had no pain nor trouble of any kind; has always been regular, except when pregnant, until two months ago, when she missed it, and has not menstruated since. Her menses were never accompanied with pain, were normal in amount, and usually lasted two and a half or three days.

She was married when twenty-one years of age, has had three children, all now living, the youngest three years old last May, the next six next month, and the oldest nine the 1st of October. Her labors were perfectly natural and easy. The first was slow, the others quick. She nursed all her children. After marriage she was always troubled with leucorrhœa, often quite profuse.

She has been losing flesh for over a year, and has become greatly emaciated and anæmic. She has had no trouble with her bladder; her bowels are natural in every way; her appetite remains good, and up to this time she has done her own work.

The enlargement was first noticed two years ago, in November, when nursing her child, and just at that time she had an attack of nervous prostration, which her doctor told her was owing to prolonged lactation, and advised her to wean her babe.

The swelling commenced in the centre of the lower part of the abdomen. It was comparatively small till last June, and then rapidly increased, causing her to look "just like a woman in the family way." This rapid growth has continued to the present time.

She has never had pain in the abdomen until two months ago, and then for a short time had severe shooting pains, which were supposed to be owing to an umbilical hernia. She was first attended by Dr. Ruttey, who used electricity. She then went to the University Hospital, where she was examined by

Dr. Goodell and told she had an ovarian tumor. Dr. William B. Atkinson was next called upon, and he, in company with Dr. I. Williamson, tapped her, and obtained about a quart of a jelly-like matter. These gentlemen also diagnosed an ovarian tumor.

I found the abdomen very prominent and enormously distended. A large umbilical hernia existed, filled with fluid, a contraction in the middle causing it to appear double. The abdomen was dull on percussion, except along the region of the ascending colon. The right flank was resonant, the left dull, and along the edge of the ilium semi-resonant. Fluctuation could be detected everywhere, except in the right hypochondriac region. The tumor was smooth, elastic, and immovable. There was neither pain nor tenderness on pressure.

Examined per vaginam, the uterus could be felt low down, with the cervix pushed towards the right side, and pointing that way. The uterus was immovable. The sound entered three inches, and so anteriorly that the handle had to be pressed against the perineum to insert it. The back of the pelvis was filled with hard, fixed masses, which felt like uterine fibroids, and were tender to the touch. The uterus was intimately connected with or imbedded in these growths.

December 8, 1877.—In company with Dr. W. L. Atlee and Dr. Atkinson, I tapped her, and removed about three quarts of a colloid matter, which resembled in color, consistence, and general appearance calf's-foot jelly. There also escaped small quantities of a thin greenish fluid. It required fully an hour to obtain this quantity, although a large canula and trocar were used.

After tapping, the epigastric region and whole upper part of the abdomen became resonant on percussion. On deep pressure, a hard mass could be felt in the left hypochondrium. Palpation gave the sensation as if a stratum of thin fluid existed between the abdominal wall and tumor. The mass could now be moved to a certain extent. My diagnosis was given as colloid cancer of the abdomen, and an operation declined.

The tapping relieved her of the feeling of distention, and on visiting her the next day I found her sitting up. Her color had improved, her lips were red, and she said she felt quite comfortable. Dr. Atkinson now took entire charge of her case. She continued to emaciate, the abdomen enlarged, and in a month or two the umbilicus ulcerated, an opening forming, through which large quantities of colloid substance, and a greenish fluid, were discharged, as much as a bucketful of the last escaping at one time. When I last saw her, June 5, the abdomen had entirely changed in appearance; the lower part had retreated, more especially on the right side, leaving a hard mass filling the entire upper part of the belly, and another

and softer mass the left lower portion. She died June 8, 1878.

Assisted by Dr. W. L. Atlee, Jr., I made an examination of the body June 9. The emaciation was extreme. The abdominal wall was so thin that my first incision penetrated the cavity. The peritoneum was thickened and opaque; its surface was unevenly studded with white deposits, resembling the diphtheritic membrane; the subperitoneal areolar tissue was converted into colloid, forming a layer from an eighth to a quarter of an inch in thickness. There was no organ which had a natural appearance. Filling the epigastric, the right and left hypochondriac, and left lumbar regions was an enormous colloid tumor, which careful examination proved to be the degenerated omentum. When cut, it had the appearance of a honeycomb, the cells or alveoli being filled with a pale-yellow jelly. Below this mass were the small intestines, lying empty, and close to the back. Below these again was a large soft mass filling the hypogastric and right inguinal regions, and stretching far towards the left. When the adhesions of this were detached, it was found to be the right ovary in a state of colloid degeneration. The uterus, which was found below this mass, appeared healthy on superficial examination. The left ovary had degenerated into a single cyst, filled with jelly, which not only occupied the upper portion of the pelvis, but sprang up as a globular tumor behind the uterus. The contents of the abdomen were incorporated into one tumor by this colloid material, and scattered through the gelatinous body could be found masses, varying in size, of the more fibrous or honeycomb-like material. It was a collection of these that were felt during life surrounding the uterus.

I present the specimens, but will not describe them minutely, both to save time, and because the general and microscopic appearance of this form of cancer has been so ably treated of by Sir James Paget in his *Lectures on Surgical Pathology*, to which I would refer you (p. 772). I would merely say that all the specimens I have examined of this disease correspond closely with his description, except, in two instances, the absence of the nucleated cells, which he (after Lebert) describes as lying free in the colloid substance.

The object which I had more particularly in view in bringing these specimens to your notice was to point out the great similarity of symptoms between this form of disease and that of multilocular ovarian tumor. In fact, so closely do they resemble each other that I believe it impossible to distinguish between them during life, except by tapping. This case was diagnosed as ovarian tumor by more than one able physician, and I certainly should have agreed with them before the tapping was performed, but, having met with

these cases before in the practice of Dr. Washington L. Atlee, I was familiar with the jelly-like matter, and so saved from an erroneous diagnosis.

Dr. Atlee, in his great experience of abdominal tumors, has met with but six of these cases, and they were so much alike that a description of one would apply to all, and in nearly all were they mistaken for ovarian disease by their physicians until the tapping revealed their true nature. This colloid or jelly-like material is unmistakable, and once seen can be always recognized.

Case of recurrent fibroid of axilla. Presented by Dr. NANCREDE for Dr. J. ASHHURST, JR.

The tumor was removed from Claude Conrad, aged 21 years, who was admitted, October 11, 1876, to the University College Hospital for encephaloid of the axillary, which diagnosis was revised to sarcoma. Professor Agnew removed the growth on the above-mentioned date, and he was discharged, cured, October 31, 1878. Since that time five other small recurrent tumors have been removed by his family physician in Factoryville. On May 28, 1878, Dr. J. Ashhurst, Jr., removed the present tumor, with two smaller growths, making in all eight tumors removed since the first was excised by Dr. Agnew. Macroscopically, this growth resembles strongly a uterine fibroid, but microscopically was seen to consist of numerous cells of a connective-tissue type, imbedded in a hyaline intercellular substance, presenting no appearance of fibrillation. Some of the cells were becoming decidedly spindle-shaped, evidently developing into fibre-cells.

THURSDAY EVENING, JUNE 27, 1878.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Three cases of heart disease associated with kidney disease. Presented by Dr. JAMES TYSON.

GEORGE C., colored, age 45, native of Philadelphia, occupation barber, was admitted to the Philadelphia Hospital, April 5, 1878, in a very feeble and prostrated condition, frequent pulse, general œdema, and great dyspnœa. He was a very large, stout man. Although his intelligence was perfect, he never was inclined to answer questions. He said he had been healthy previous to his present illness, which had been of but a few weeks' duration; he denied having had rheumatism or syphilis, or having used liquors in excess. Bowels constipated; tongue coated; no appetite; great thirst. Cough with white frothy expectoration. Feet very much swollen; whole body œdematous. Skin dry. Pulse 120, dicrotic. Urine diminished in quantity, and highly colored.

Physical examination.—Area of heart's dul-

ness much increased; systolic murmur at the base; later, also, a mitral systolic murmur was observed. There were moist râles all over the chest and back. Examination of urine revealed albumen in variable quantity at different times, from one-quarter of bulk examined, to a trace; no tube-casts, but often much epithelium from the kidneys, and a great excess of urates.

Diagnosis.—Aortic stenosis and slight mitral insufficiency. He improved for a short time under digitalis and tonics. A jaborandi sweat did not act favorably. Soon his condition grew worse; œdema became more marked; and the patient was compelled to remain in sitting position during the last two weeks on account of excessive dyspnœa. He died May 12, 1878.

Autopsy.—Heart hypertrophied and dilated. Aortic valves slightly atheromatous and stiffened, also fenestrated, but not thickened. Mitral cusps evidently, but not markedly, thickened. Aorta dilated, and highly atheromatous.

Lungs œdematous; some pleuritic adhesion on the left side.

Kidneys enlarged and swollen; in a state of parenchymatous nephritis.

Liver and spleen normal.

Brain not examined.

Remarks.—The most interesting facts in the history of this case are the slight degree of valvular lesion compared with the extreme degree of the symptoms, the marked dyspnœa and excessive dropsy, and the fact that there was also chronic tubal disease of the kidneys, with very few casts.

J. M., colored, age 56, native of Virginia, was admitted to the Philadelphia Hospital four times. First admission in May, 1877, for one week, with the diagnosis of aortic regurgitation. Second admission in July, 1877, when he was transferred to the venereal wards. Third admission in December, 1877, when he remained in the medical wards until March last, under the care of Dr. Guitéras; diagnosis, chronic Bright's disease. Last admission, May 24, 1878, under my own care. When I saw him he was in a very feeble, prostrated condition, frequent pulse, great dyspnœa, and not able to speak.

Physical examination.—Dulness on percussion over the right side of chest; region of dulness changed by change of position of patient. The heart was pushed much to the left side. First sound of heart reduplicated; slight systolic murmur at the base, and also a mitral regurgitant murmur. Dr. Guitéras also found marked dulness over the upper part of sternum; right pulse larger than left.

Examination of urine.—Albumen only a trace; urates in excess; hyaline and some granular tube-casts.

Diagnosis.—Pleuritic effusion; hypertrophy of heart; aortic stenosis and mitral insufficiency; interstitial nephritis. Dr. Guitéras

diagnosed, in addition to this, atheroma and dilatation of the aorta.

Died on June 9.

The *post-mortem* notes read as follows:

Heart.—Hypertrophy without dilatation; walls of left ventricle one inch thick; posterior leaflets of mitral valves thickened, the chordæ tendineæ of left valve much thickened, pulling out the muscoli papillaris, which were extremely hypertrophied and unusually hard. Semilunar aortic valves slightly thickened, and atheromatous. Aorta greatly thickened, and generally atheromatous, and *dilated*; about one inch from its commencement it became double.

Lungs.—Right lung much engorged and congested, the lower lobe completely consolidated, and entire hemorrhagic infarction. Extreme pleuritic effusion on right side.

Kidneys contracted, not more than three inches long; granular.

Liver, intestines, and peritoneum healthy.

Brain not examined.

Microscopic examination of kidneys confirms an advanced interstitial nephritis.

George J., white, age 35, native of Philadelphia, a laborer, admitted to the Philadelphia Hospital, April 17, 1878. He was a large, strong man, has never been sick, except an attack of rheumatism, which he had in 1871, for a few weeks, and never since. He had syphilis, and has been also a drinking man. His sickness dates only from February last, when he took cold, being one day whilst perspiring very much exposed to snow and cold wind. Had cough, fever, shortness of breath, and pain in the region of the heart. A few days before his admission to the hospital his feet began to swell, the swelling extending later over the whole lower extremities and the scrotum. He did not complain of any pain, but had very great dyspnoea. Appetite good; excessive thirst; quantity of urine diminished—only a trace of albumen; no tube-casts; some epithelial cells from the kidneys, and some blood-corpuses.

Physical examination.—Area of heart's dulness increased. Marked systolic murmur at the base of heart, and a murmur is heard in the right carotid; a mitral murmur was also observed coincident with the impulse, and transmitted to the axilla. Vocal fremitus diminished at the left side of chest.

Diagnosis.—Mitral insufficiency and aortic stenosis, and chronic pleurisy.

The patient died suddenly and unexpectedly, May 12.

Autopsy.—*Heart* much hypertrophied; cavities much thickened; chicken-fat clot in right auricle. Extensive vegetations on aortic sigmoids, with partial calcareous degeneration of the same. Marked thickening of mitral valve.

Lungs.—Hypostatic congestion of both lungs; pleuritic adhesions on left side.

Kidneys large, swollen; capsule strips off

easily. Left kidney with marked hemorrhagic infarctions; in both kidneys minute hemorrhages over the surface. Cortex increased. Microscopic examination reveals a parenchymatous nephritis, with capillary congestion and extravasation of blood.

Dr. GUITÉRAS said that at a previous meeting he had referred to several cases where he had succeeded in diagnosing slight dilatation of the aorta by means of respiratory percussion. In some of the cases the diagnoses have been since that time confirmed by autopsies. This had led him to attach much importance to the systematic use of this method of percussion for examination of the aortic region. He made it a rule never to examine this region without percussing at the end of a forced expiration. As the lungs collapse over the large blood-vessels, it is surprising to find how clearly the area of dulness of a dilated aorta becomes apparent.

The first case he had examined after this manner was one where aneurism had never been suspected, and where no dulness could be obtained by ordinary percussion, yet he was enabled to demonstrate to a large class an area of almost flatness over the right border of the sternum, above the third rib. Slight pulsation could also be seen towards the end of expiration. Other symptoms have developed since, leaving no doubt as to the diagnosis.

In Case No. II., a colored woman, 38 years old, the symptoms of pressure on the trachea were well marked. Symptoms of vascular disease rendered it probable that the source of pressure was an aneurism, but the dulness at the upper piece of the sternum could only be detected at the end of forced expiration.

In Case No. III., an old woman, there were evidences of valvular disease, both mitral and aortic. The aortic systolic murmur was so feeble (weak ventricle) that the existence of lesion of the semilunar valves had been doubted. By respiratory percussion the presence of aortic dilatation was demonstrated, and the diagnosis was subsequently confirmed at the post-mortem.

Of Case No. IV. no notes had been kept. During life the enlargement of the vessel could only be demonstrated at the end of expiration. Diagnosis confirmed by the autopsy.

Case No. V. was the one now before the Society. When this case was admitted early this year in the wards of Dr. G. at the Philadelphia Hospital, he supposed it to be one of contracted kidney with cardiac hypertrophy. But his attention was called to examine the aortic region by a prominence of the right sterno-clavicular articulation. This had nothing to do with the aortic lesion, but pulsation at the base of the neck was noticed, with inequality of the radial pulses. Respiratory percussion led to the discovery of a well-marked area of dulness.

Case No. VI. was examined previous to these investigations, but it is mentioned because though the dilatation was not greater than in some of the cases just described, yet it could be detected by ordinary percussion. The emaciation of the patient probably accounts for this. She died of cancer of the uterus.

Case No. VII. was seen only yesterday, after a prolonged absence in Cuba. In 1876 Dr. G. had found evidences of disease of the aortic valves and of atheroma of the arteries in its early stage. During the same year he saw him, in consultation with Drs. Alonzo Clark and Austin Flint, of New York, and Dr. Landeta, of Havana. Dr. Flint confirmed the diagnosis, but Drs. Clark and Landeta suspected the existence of some dilatation of the arch. Dr. Clark based his diagnosis upon evidences obtained by ordinary percussion. Now the patient presents all the symptoms of aneurism of the ascending portion of the arch. It is very probable that respiratory percussion would have made the lesion more apparent in its incipiency. Curiously enough, at present, when there can scarcely be any doubt of the existence of an aneurism, the percussion resonance over the aortic region is but very slightly impaired, and is not influenced by respiration. This is due, Dr. G. believes, to adhesions fixing the lung.

He also desired to call attention to the value of pulsation of the neck, as being a very conspicuous symptom in cases of aortic disease, both of the valves and vessel. It should always lead to a careful examination of the aortic region. In differences between the carotid pulses and in unilateral thrill pretty strong evidence is found of disease of the aortic arch. Of seven cases presented, five had unequal radial pulses. In No. II. this symptom was absent; in No. IV. it was not looked for.*

Unfortunately, the specimen of double aorta was removed from the body before the anomaly was noticed. At the first glance it was difficult to determine whether the double aorta was not a dissecting aneurism. There was a slit about an inch beyond the left subclavian artery leading into the accessory aorta. The latter ran up to the subclavian, forming a pouch, and downwards as far as the mutilated specimen shows. Further examination leaves no doubt as to this point: the edges of the slit are smooth, the lining membrane of the anomalous channel has the normal appearance, and, most important of all, the orifices of the left intercostal arteries are seen in the outer wall of the false aorta; the right intercostals arise from the main vessel near the septum; in the latter some aborted orifices may be found.

As a point bearing on the pathogenesis of atheroma, it may be mentioned that, whilst the arch of the aorta is well dilated, and, together with the rest of the main channel, is highly atheromatous, yet in the accessory aorta, where the blood-pressure must have been much less, there is scarcely any atheroma.

Cancer of the ascending colon. Presented by
R. G. CURTIN.

John McL., æt. 64 years, married, native of Scotland.

The patient, who was by occupation a stone-cutter, came under observation on the 15th of January, 1877.

When he was 21 years old, he had an attack similar to the one for which he came under treatment last January, except that he did not then notice any tumor at the seat of pain. This seizure passed by, but kept him so reduced that he was for a time unable to work.

In the early part of 1876 he had some rheumatic symptoms in the legs, and suffered from weakness and vertigo.

With these exceptions the patient stated that he had been perfectly well up to within eight months of the time he applied for treatment.

In the month of June, 1876, while lifting a heavy stone, he suddenly felt a stinging or *jagging* sensation, of a warm or burning character, in the right iliac fossa, which continued for two weeks, sufficiently severe to unfit him for work.

About two months after this lift, his attention was directed for the first time to a tumefaction in the right iliac fossa, at the point in which he had felt the sensation of pain. This tumor was somewhat tender on pressure, becoming more so as it increased in size. The patient compared the pain to that of an abscess, as if matter were present.

In August he had a great tendency to nausea, and frequently vomited. For a month or two only he belched up "wind and slime." When swallowing food he noticed an inclination to eructation. He would feel the gas working up and down, and obtained temporary relief after belching.

Never passed blood with his stools. Bowels were regularly opened until about October, 1876, when first symptoms of constipation appeared.

He would go to stool with flatulent colicky pains, and fail to be relieved. Suffered much from *rumbling* in the bowels, accompanied with pain.

When first seen, in January, 1877, he had coughed for two months, expectorating about a tablespoonful in twenty-four hours.

Auscultation revealed, on the left side, noisy and harsh inspiration, with audible and prolonged expiration, about the mammary region; on the right side in the correspond-

* All these cases will be published more in detail, together with observations on the normal respiratory percussion of the aortic region.

ing region harsh and noisy inspiration, with expiration same as on the left side.

There was progressive loss of flesh and strength, and the patient died, on the 18th of May (last), of exhaustion and starvation. There was extreme emaciation.

Post-mortem.—On opening the abdomen, a tumor, the size of the fist, was found about one-third of the way up the ascending colon. The only evidence existing of peritonitis was a small patch outside the tumor, where a loop of the upper part of the ascending colon was bent down and attached to the tumor. The tumor was hard, and on section the tissue grated under the knife like cartilage. The inside of the tumor was in an ulcerated state, with patches of red, pulpy mucous membrane scattered here and there. The alimentary canal was patulous through the tumor, but very much constricted.

The difficulty in making a diagnosis in this case from chronic perityphlitis is apparent from several considerations. First, he had stated that he had had a soreness, with evidence of inflammation, in the same place when a boy. Second, the soreness came on suddenly after a heavy lift. The growth was very slow, and ceased a year before death.

A daughter of this man had an ulcerated condition of the small intestine, seated near the same place, two years ago. The specimen was presented to this Society.

Dr. Seiler made a microscopic examination of the tumor, and found the muscular tissue of the intestine at the place of the new formation to have disappeared; in its place a connective tissue forming alveoli, in which were epithelial cells, was found.

Dr. TYSON said in reference to one of the symptoms mentioned by Dr. Curtin, the sensation "as if something had suddenly given way" within the abdominal cavity, that he thought this symptom was due here to the rupture of an adhesion, which had formed at a previous period, when inflammation first set in, due to the irritation of the growing mass. Some years ago he had met the same symptom in the case of a young man, who, while gunning, felt something give way in the abdomen as he made a long leap; immediately peritonitis was developed, and he died promptly.

Embolie pneumonia. Verbal communication by Dr. GUITÉRAS.

Dr. GUITÉRAS desired to relate very briefly a case bearing upon the discussion of embolism. He had found at the Philadelphia Hospital a pair of lungs presenting numerous small patches of gangrene. He had immediately suspected the existence of some focus of infection, since the tissue between the foci was healthy. On asking, it was discovered that the man had had during his rather short illness a dark and fetid discharge from one ear. The body was placed again upon the

table, and the skull was opened. A portion of the petrous portion of the temporal bone was found broken down, and the lateral sinus near it in a condition of gangrene; its walls and the contained clot presented a greenish hue, and were fetid. The body had not commenced to decompose. The emboli washed from this focus were evidently infectious, and they gave rise to a process similar to the one taking place at the fountain-head. The patient was a robust adult.

REVIEWS AND BOOK NOTICES.

HANDBOOK OF OPHTHALMOLOGY. By Prof. C. SCHWEIGGER, of the University of Berlin. Translated from the Third German Edition by PORTER FARLEY, M.D., of Rochester, New York. J. B. Lippincott & Co.

It has not been so very long since medical science passed through the dangerous crisis in which a vague and fantastic speculation threatened to carry all before it. The general necessity of placing upon a firm basis the educational standard of a proper scientific method of obtaining knowledge, only by close and careful observation and study, has driven away empiricism. This has become evident in the several branches of the animal functions and economy, by the new ideas already opened, and the lucidity given to many intricate points hitherto considered obscure.

The science of medicine is one of practical truths: therefore its progress, to be near the truth, must be kept far removed from all speculation which is not well supported by immediate observation and experience.

Until within a short time the attention of students has been drawn, in relation to medicine and surgery, to general matters only; while the special parts have been neglected, or rather skipped over. But, thanks to a divine order, the development has been so great that the different parts and organs of the human body have undergone especial observation, with the result of calling attention to the necessity of their separation into different branches for particular study, thus giving rise to specialties in the practice of our profession. In none of the branches has there been more activity in the development of really scientific and practical results than in that of ophthalmology. For the past twenty-five years it has been the great study throughout Europe and the United States, and new brochures and books upon subjects relating thereto are continually issuing,—so much so that, as Prof. Schuh remarked upon another matter, "they have become 'massenhaft.'"

In all the different handbooks and treatises on ophthalmology we must expect to have many repetitions on the same subject, but at the same time we gain more fully the partic-

ular experience of each individual writer than in any other way; and the greater the experience the greater will be the gain to the reader and student. As in the case before us, Dr. Schweigger was for many years connected with the late v. Graefe as ophthalmoscopist in his large clinic in Berlin, and had with him an experience of great and lasting benefit. After the death of v. Graefe, he was appointed to fill his place as Professor of Ophthalmology in the University of Berlin, and surgeon in charge of the Ophthalmological Department in the Charité Hospital.

As a handbook is but a short manual of reference, it is not to be expected that we will find everything taken up and exhaustively treated. It is the purpose only of the author to call attention to the general matters in ophthalmology, and to enlarge upon the more important points, so as to give a good insight into the many different affections with sufficient information to enable the physician to diagnose the different forms of diseases and their treatment, as well as a foundation for pursuing his studies deeper and more thoroughly in this branch if so desired.

It is written in a short, concise, and very readable style, making it interesting and well calculated to prevent the reader from becoming wearied. Everything that the author deems necessary to explain is clearly and plainly elucidated in the briefest but most comprehensive manner, making it a valuable book for the busy practitioner. He excludes everything that would be of interest only to those who desire to make a special study of ophthalmology.

The translation is well done, the clear concise language of the original having been admirably preserved. It is, however, much to be regretted that he did not also act as English editor, and bring the contents up to the standard of the present day, by inserting in notes the many new and important points in relation to the pathology, treatment, and operations since the issue of the German work; for we find nothing new since 1874, and then only two references for that year. Really there are but ten references to new matters since the first edition in 1871.

The book is gotten up in most excellent style, with good paper and print, and is well worthy a place in the library of every physician, for reading and ready reference.

DISEASES OF THE NERVOUS SYSTEM. By SAMUEL WILKS, M.D., F.R.S. Philadelphia. Lindsay & Blakiston.

This is a well-written book of nearly 500 pages, containing little or nothing that is novel, but yet not lacking in the freshness which arises from the author having seen and studied at the bedside what he is talking about. It covers very fairly the field of nervous diseases, and we recommend it cordially as a guide to those who want to get a sufficient knowledge

of the subject for use in ordinary practice, but are unwilling or unable to give the time required by some of the more extensive works.

GLEANINGS FROM EXCHANGES.

UNUSUAL OCCURRENCE IN THE ATTEMPT TO REDUCE A DISLOCATED HUMERUS (*The Lancet*, July 6, 1878).—Mr. Thomas Smith reports the following very rare and interesting case, premising it with the remark that the gentleman who made the extension was not an athlete, nor was he supposed to possess any extraordinary physical force, neither had he put out his entire strength at the time of the accident: "A man, aged fifty-eight, was admitted to the hospital April 30, 1877. Eight weeks before admission he fell on his elbow, his hands being in his pockets at the time. As the result of this accident he suffered from paralysis of the radial nerve, and his arm lost its ordinary mobility, for which he was treated in various ways. On examination at the time of his admission he was found to have suffered a subcoracoid dislocation of the left humerus, which had escaped notice. On May 3, with the concurrence of the surgical staff of the hospital, he was put under the influence of ether, and after Mr. Smith had manipulated the limb so as to break down recent adhesions, an attempt was made to reduce the dislocation. The house-surgeon, sitting on the ground by the side of the patient, placed his left foot, covered only by a thin sock, in the axilla; a jack-towel was fastened by a clove hitch round the arm just above the elbow, the other end of the towel being passed behind the house-surgeon's shoulder, who also made extension by pulling from the patient's wrist. No other force was employed, and no assistance was given by bystanders. After extension had been maintained for a minute or so, the whole of the anterior fold of the axilla, integuments and muscles, gave way like 'rotten leather.' The cavity of the axilla was laid widely open, and pretty free hemorrhage took place. This was at once arrested by pressure, the patient was lifted on to the operating-table, the bleeding vessels were secured, the axilla was washed out with carbolic solution, the wound was partially closed, and drainage established by lint soaked in carbolic lotion.

"The pectoral muscles were found to have been almost completely torn, and the large vessels and nerves, with the head of the humerus, were laid bare, but not torn; the dislocation was reduced with ease. No immediate constitutional disturbance followed the accident. The patient took his food well, and his temperature was normal for four days; but as the discharge set in, his strength began to fail, and he died on the ninth day, from exhaustion.

"On post-mortem examination, diffuse sup-puration was found to exist in and around the axilla, and the parts about the upper and middle lobes of the right lung were in a state of consolidation. The heart was flabby; the liver large, pallid, and fatty; the kidneys normal; the spleen large, soft, and semi-fluid; vessels of the size of the tibials were rigid from calcareous degeneration. The muscles generally were paler, softer, and more flabby than normal. At the seat of injury nothing could be ascertained as to their condition as regards degeneracy, owing to the amount of sloughing that had taken place. No microscopical examination was made."

OPIMUM HABITUATION (*The Medical Record*, July 27, 1878).—Dr. J. B. Mattison, of Parish Hall, Brooklyn, an institution exclusively devoted to the treatment of the victims of the opium-habit, details some cases coming under his notice, and thus summarizes the principles of treatment there adopted. Tonics and sedatives constitute the therapeutic reliance. The effect of preliminary *sedative* treatment in obviating the discomfort of the withdrawal of the opium is so satisfactory that we are most firmly convinced of its value.

Bromide of sodium is preferred for its pleasant taste. It is given, largely diluted, three—occasionally four—times in the twenty-four hours. The plan of frequent and prolonged administration—thirty to sixty grains every half-hour, etc.—is not regarded with favor. The effect of the bromide being rather remote, this method incurs the risk of surcharging the system and entailing unpleasant if not serious results.

The efficacy of hot baths has been alluded to. Their value is beyond dispute.

For removal of the muscular debility we have found nothing equalling general faradization, twenty minutes sances daily. The sense of exhilarating comfort resulting is very decided.

Strychnia is always employed with cod-liver oil, phosphorus, iron, digitalis, and quinine, as the case may demand; and out-of-door exercises, especially pedestrian, with varied social enjoyments, form valued adjuncts in treatment.

Our experience proves conclusively the efficacy of therapeutical resources in overcoming this formidable disorder, and warrants a favorable prognosis in all cases not complicated by organic disease.

THE ACTION OF SULPHURETTED WATERS IN REPRODUCING THE SYMPTOMS OF SYPHILIS WHEN LATENT (*The Practitioner*, July, 1878).—The explanation of the effects of sulphuretted waters in reproducing the symptoms of syphilis is stated by Güntz as follows: 1. A decomposition of albumen is produced by the water. 2. This decomposition is expressed clinically by a transitory chlorotic condition, owing to diminished size of the liver and spleen, and by increased excretion of urea.

3. This increase of urea is due to the action of the sulphuretted water in withdrawing oxygen, the effect of which is increased by coincident diminution of the activity of the heart and respiration. 4. The formation of new syphilitic products is effected at the cost of metamorphoses of albuminous substances, which by their decomposition produce new conditions, under which the syphilitic poison can act and form new combinations. 5. As long as the capacity of syphilitic contagion to attach itself to organic elements exists, so long can the poison remain in the body. Mercury acts in the same way as sulphuretted water, since it forms an albuminate in the body.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM AUGUST 25 TO SEPTEMBER 7, 1878.

KING, WILLIAM S., LIEUTENANT-COLONEL AND SURGEON.—Assigned to duty at Carlisle Barracks, Pa. S. O. 156, Department of the East, August 31, 1878. Granted leave of absence for six months, on account of sickness, with permission to apply for an extension, if necessary. S. O. 190, A. G. O., September 2, 1878.

SIMONS, J., LIEUTENANT-COLONEL AND SURGEON.—Assigned to duty at Fort McHenry, Md. S. O. 156, c. s., Department of the East.

HEAD, J. F., LIEUTENANT-COLONEL AND SURGEON.—Assigned to duty at Fort Independence, Mass. S. O. 156, c. s., Department of the East.

McPARLIN, T. A., MAJOR AND SURGEON.—Assigned to duty at Fort Hamilton, N. Y. H. S. O. 156, c. s., Department of the East.

FRYER, B. E., MAJOR AND SURGEON.—Granted leave of absence for twenty-two days. S. O. 153, Department of the Missouri, August 26, 1878.

McCLELLAN, E., MAJOR AND SURGEON.—When relieved by Assistant-Surgeon Gray, to proceed to Fort Lapwai, Idaho, and report for duty at that post. S. O. 104, Department of the Columbia, August 22, 1878.

NOTSON, W. M., MAJOR AND SURGEON.—When relieved by Assistant-Surgeon Koerber, to comply with S. O. 176, c. s., A. G. O. S. O. 176, Department of Dakota, August 20, 1878.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to leave the Department. S. O. 181, Department of Texas, August 26, 1878.

BARTHOLOMEW, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Camp Harney, and assigned to duty at Fort Stevens, Oregon. S. O. 104, c. s., Department of the Columbia.

KOERPER, E. A., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort McKinney, Wyo. T., relieving Major Notson. S. O. 77, c. s., Department of Dakota.

CLEARY, P. J. A., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 65, Division of the Missouri, August 26, 1878.

STEINMETZ, WM. R., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one year. S. O. 186, A. G. O., August 28, 1878.

GRAY, W. W., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Vancouver, W. T. S. O. 104, c. s., Department of the Columbia.

BRECHEMIN, L., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at the new post to be established near Camp "J. G. Sturgis" (Bear Butte, D. T.) by Major Lazelle, First Infantry. S. O. 102, Department of Dakota, August 27, 1878.

CAMPBELL, A. B., CAPTAIN AND ASSISTANT-SURGEON.—Died at Chicago, Ill., on September 1, 1878.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 28, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON PROSTATORRHŒA AND STRICTURE OF THE URETHRA.

Delivered at Jefferson Medical College Hospital

BY SAMUEL W. GROSS, M.D.,

Lecturer on Diseases of the Genito-Urinary Apparatus in Jefferson Medical School.

(Reported for the *Medical Times*.)

THIS patient is a married man, and is 27 years of age. Ten years ago he had a very bad attack of gonorrhœa, which lasted three years,—a chronic gleet being established. Lately the man has been married. He comes to us to-day complaining of dribbling of the last few drops of urine, so that he always has to give his penis a good shake before putting it away; of a thick muco-purulent discharge from the urethra when he has to strain at stool, of almost constant priapism, of constipation, great nervousness, occasional palpitation of the heart, a scalding sensation when he passes water, and general sexual debility. He is working at present in a turpentine-manufactory, and thinks that his sexual passions have been greatly increased since he has been there. This is very easily explained by the fact that the turpentine makes the urine preternaturally acrid, and so increases the sensibility of the parts by setting up a constant source of irritation. Before his change in trade he was in the habit of making water frequently; now he only does so two or three times during the day, and then in large quantities.

I propose to-day to examine the man in your presence, and see what is the matter with him. The discharge of the thickish white fluid from the urethra while straining at stool is a characteristic symptom. The man says that this discharge comes out in lumps, or squirts out. After the passage of the urine, he says that he very often has a feeling like that present during erection, only that it is not nearly so pleasant.

I shall introduce this No. 30 bulbous bougie, and see if I can discover any strictures. The meatus is an unusually

large one. I find that the patient has a number of strictures, one about an inch behind the meatus, and two stricture-bands in the region of the bulb. I cannot carry my investigations any further to-day, for this one introduction of the instrument has caused a great deal of pain, showing a state of considerable hyperæsthesia of the urethra, and has made the man feel quite sick at the stomach and faint for the time being. In England the surgeons introduce the catheter frequently with the patient standing upright before them, and it is not by any means unusual for patients to fall down in a fainting-fit after the passage of the instrument. Sometimes, when patients come to my office, I introduce the catheter while they are sitting down, and in several instances they have fallen off their chairs in a fainting condition. This is, of course, the result of some peculiar idiosyncrasy on the part of the patient. Indeed, so close is the relation between the mucous membrane of the urethra and the general vaso-motor system that an unwary introduction of the catheter, or sound, has in some rare cases produced epilepsy, and even death.

The man says that he has not had so much discharge within the past month. The bougie has, as you can all see, brought away with it some of this discharge, which evidently comes from the neighborhood of the prostate. The numerous strictures are plainly a result of the gleet, or rather of the long-standing gonorrhœa. I have no doubt that if I could slit up this man's urethra I should find throughout its length well-marked linear injection. The tenderness in the region of the prostate, as developed by the bulbous bougie, is very marked. This local inflammation is due to chronic catarrh of the prostate gland, which means an exaggerated, chronic secretion by the prostatic ducts. We call this condition prostaticorrhœa, or abnormal flow of the prostatic fluid. Prostaticorrhœa was first described as an independent disease by Professor S. D. Gross some twenty years ago.

Prostaticorrhœa is usually induced in young men by ungratified sexual passion, and consists in a gleety discharge from the prostate gland. It is also produced by excessive indulgence, or masturbation. Sufferers from this discharge are very apt to think that they are affected with sper-

matorrhœa. A well-known French author has drawn the distinction between nocturnal and diurnal, or true and false spermatorrhœa. The discharge of sperm which occurs at night is, as a general rule, entirely normal,—simply a natural relief to the over-distended spermatic vessels. Diurnal spermatorrhœa is not at all a discharge from the spermatic vessels, but from the prostate,—a prostatorrhœa. This prostatorrhœa generally occurs after straining at stool: the hardened fœces press upon the prostate gland. It is apt to be kept up by intemperance and riding on horseback or jolting in a wagon over rough roads. Sometimes even the act of walking will bring it on. Masturbation is its most frequent cause. A young man with this complaint reads the notices of quack doctors in the Sunday papers, and gets hold of pamphlets on the "Philosophy of Marriage," "The Evils of Indiscretion," etc., etc., perhaps goes to see some quack about his troubles, who of course does his best to impose upon his victim's fears. People talk about insanity as a result of prostatorrhœa. I have no doubt that young men who do as I have just said may in course of time become insane; but they become insane not from the effects of the prostatorrhœa, but from mental worry and anguish. Prostatitis is a very common affection, and is correspondingly curable. Spermatorrhœa is, on the other hand, one of the rarest of all diseases.

How are you to convince a patient that he is not suffering from spermatorrhœa? for, unless you can gain your patient's confidence, you may as well give up the case altogether. Do it in this way: collect a little of the gleet discharge and put it in the field of your microscope, and let the patient examine it and then compare its appearance with that of the spermatic fluid,—his own sperm, if necessary. The spermatic fluid contains spermatozoa; the prostatic discharge contains the so-called "concentric prostatic calculi." So soon as your patient's mind is relieved, you have already won half the battle. It is not uncommon in this disease for the patient to experience some pain in the prostatic region during the venereal act. This man has not noticed any such pain. His condition is fast becoming one of marked hypochondriasis. He tells me, upon close questioning, that he smokes and chews a great deal.

We come now to the consideration of the cure and treatment of this condition. Of course the success of your treatment will consist largely, if not altogether, in your ability to overcome and put a stop to the chronic inflammation and discharge. If there are one or more strictures present, of course the first thing for you to do is to relieve them, and this can best be done by gradual dilatation, by means of the expanding bougie which I have designed (see *New York Medical Record* for June 15, 1878, pp. 461, 462, 463). Where there is no stricture, but simply a condition of hyperæsthesia of the urethra, the best treatment, beyond all question, is by the persevering introduction of conical steel bougies of gradually increasing sizes. As the morbid sensibility of the part is obtunded, so, *pari passu*, the inflammation and discharge subside. In introducing the conical steel bougie, allow it to fall into the bladder by its own weight, and then remove it at once. Use an instrument of the same size once a day for five or six days, and then gradually increase the calibre of your bougie. If the meatus is unusually small, you will have to slit it up; otherwise, not. Some cases of the disease are obstinate. In these it will be necessary to use astringent local applications. To do this you may take the conical steel bougie and cut a cup-shaped concavity at the convexity of the curve. In this cup you may place some acetate of mercury, or sulphate of copper, or nitrate of silver. Or you may use the *porte-caustique* of Prof. Samuel D. Gross, with some nitrate of silver, with stramonium ointment, or cerate of opium. In using any instrument, be sure to turn it all the way round, so as to bring the caustic in contact with all the parts. If you choose, you may use the catheter-syringe, or any one of the thousand-and-one devices for making local applications. The best method of all those which I have described is that by the *porte-caustique* with the solid nitrate of silver. The more concentrated your solution of the nitrate, the better the results. After applying the caustic, the patient should be kept in bed. The caustic effect will, of course, terminate in suppurative inflammation. There is a great sensation of scalding in passing the urine, and, indeed, very often all the symptoms of acute urethritis; during the course of which the patient must be kept in bed, his diet cut

down, and demulcent drinks administered freely.

Obstinate constipation and dyspepsia are very frequently attendant symptoms of the disorder. You must discover, of course, whether the dyspepsia be acid or alkaline, and treat it accordingly. As regards the constipation, the lower bowel should be kept well open. An occasional purge will do no harm. As a routine medicine the patient may take each morning, before breakfast, $\mathfrak{f}\mathfrak{v}\mathfrak{j}$ of Hunyadi János water, or the following prescription, of which the late Dr. Robley Dunglison was the originator, viz.:

R Magnesii sulphat., $\mathfrak{z}\mathfrak{j}$;
Potassii bitart., $\mathfrak{z}\mathfrak{j}$;
Ferri sulphat., gr. x;
Aquæ, q. s. ad Oij.

M. S.—A wineglassful every morning before breakfast.

Another very excellent plan is to inject five or six gobeitfuls of cold water into the rectum each morning. This at the same time opens the bowels and produces a tonic effect upon the inflamed prostate. The diet should be nutritious, but bland. The patient must eschew coffee, tea, malt and alcoholic liquors, and all greasy and fried substances. For breakfast he may take grits or oatmeal, meat, and bread and butter; for dinner, plenty of good rare beefsteak or mutton-chop, with potatoes, tomatoes, etc. Supper should be a light meal. As a drink he had better use water.

The patient must avoid all horseback exercise and all riding in carriages, horse-and steam-cars. If he has business to attend to, let him walk, remembering to take his time about it.

If the patient be anæmic, he should be put at once upon a tonic treatment, something like the following, for instance:

R Quiniæ sulph., gr. xl;
Tinct. ferri chl., $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{v}$;
Tinct. nucis vom., $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{v}\mathfrak{s}\mathfrak{s}$;
Aquæ, q. s. ad $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{j}\mathfrak{s}\mathfrak{s}$.

M. S.—A teaspoonful four times daily, in water through a siphon.

If, on the other hand, there be a decided tendency to plethora, and the venereal appetite be constantly excited, the patient should be put under the influence of depressants, with an occasional purge. An excellent local tonic is a sitz-bath, taken

every night before going to bed and every morning immediately after rising. This bath should only be continued three or four minutes at first; afterwards the man may remain in the water ten or fifteen minutes. As regards the mattress used, it should always be hard, and the patient should be careful to empty his bladder thoroughly before going to bed, and to use only the lightest of coverings. He should also rise every morning at four or five o'clock and make water.

To keep down the venereal appetite, we make use of anaphrodisiacs; the bromides should be given in large doses. By large doses I mean thirty grains of the bromide of potassium thrice daily. The bromide should not, of course, be given to the anæmic cases. Instead of the bromide we may give a five-grain pill of the monobromide of camphor at bedtime.

If the disease is obstinate there is nothing better than local blistering. With a camel's-hair brush dipped in cantharides and colodion, a couple of lines should be drawn first on one side of the raphé of the perineum and then on the other.

Of course, in these cases it is important that intercourse should be had occasionally. The seminal vessels get filled, and must be relieved. No absolute rule can be laid down with regard to the frequency of intercourse. The patient must always be guided by his feelings after the act. As a general rule, once in two or three weeks is quite enough,—enough, at any rate, until full virility be regained.

In some of these instances there is much functional disease of the heart, palpitations, flushings of the face, etc. etc. There is no better treatment of this condition than digitalis in small and long-continued doses,—digitalin, $\frac{1}{80}$ of a grain, or $\mathfrak{f}\mathfrak{z}\mathfrak{s}\mathfrak{s}$ of the infusion, or gtt. $\mathfrak{v}\mathfrak{j}$ -x of the tincture thrice daily. This treatment, to do any good, must be continued for two or three months, occasionally for much longer periods.

LOCUSTS.—According to the statements now circulating in the scientific journals, the United States Entomological Commission have found a possible use for those scourges of the West, the locusts. It is affirmed that when their bodies are treated with sulphuric acid, formic acid is produced in abundance. The exact value of formic acid, however, remains an unknown quantity.

ORIGINAL COMMUNICATIONS.

CEREBRAL AND SPINAL ANÆMIA.

BY EDWARD C. MANN, M.D.,

Professor of Histology, New York College of Veterinary Surgeons; Superintendent Sunnyside Medical Retreat, 152d Street, Washington Heights, New York City.

THE occurrence of cerebral and spinal anæmia is becoming so frequent among American women, and is the cause of so much of their ill health and lassitude, that I propose to investigate in this paper its symptoms, causes, morbid anatomy, and treatment, feeling sure that so common and troublesome an affection cannot fail to be of interest to the majority of the profession.

We are applied to for treatment by pale, colorless women, with cold skin, complaining of headache of a limited nature, usually relieved by lying down, and exaggerated by either physical or mental effort. These patients have little muscular power; and we sometimes find symptoms of anæsthesia. The patients all complain of drowsiness. The majority of these patients will be found—when spinal anæmia is present—to have tenderness over one or more points of the vertebral column, which is increased on pressure. The pain developed by such pressure may be either dull or sharp in nature. We may, in rare cases, find tenderness on pressure over the entire spine. Neuralgia is also a very prominent symptom, and may be experienced in the head, face, neck, shoulders, and upper extremities, when the cervical and dorsal regions of the spinal cord are implicated; while the neuralgic pain attacks the pelvis and the lower extremities when the anæmia implicates the lumbar region of the spine. At times we find hyperæsthesia existing, either of the whole or a part of the body, or limited in some cases to the organs of special sense. Occasionally we see convulsive movements and also affections of the larynx and air-passages and the alimentary canal. Some patients with cerebral anæmia give a history of attacks of dizziness and fainting-fits, while others complain of intense irritability and disturbances of sensibility. These latter patients are very sensitive to light and sound, and have flashes before the eyes. They are very apathetic, and they have much mental lassitude. They are inclined, as I have said, to sleep, but their sleep is of a disturbed character, and they are annoyed by

frightful dreams. In nearly every case of cerebral anæmia, and in some cases of spinal anæmia, we meet with disturbances of the mind, ranging from slight hysterical symptoms to acute maniacal paroxysms. We also find disturbances of the digestive organs, of the genito-urinary organs, and of the heart and circulation. Also we find in cases of spinal anæmia that many visceral diseases are simulated by this affection. The neuralgia before alluded to has the peculiarity of shifting its seat quite suddenly from one place to another, and this is one of the principal diagnostic features of spinal anæmia. These neuralgic pains are increased by physical or mental effort, and relieved by lying down, when the contracted and bloodless cerebral and spinal vessels become filled with blood. As a rule, we do not find that our patients complain of pain in the spine. We more generally find that a sense of weight and heat and pain in the spine is due to spinal congestion, and not to anæmia. We often have complaints of nausea and vomiting. We sometimes find, in cases of spinal anæmia, painless and prolonged muscular contractions. We may have weakness, but no paralysis. The affections of various parts of the body and the viscera in cerebral and spinal anæmia are due probably to the fact of the sympathetic system of nerves being affected. The system of nerves, as it is well known, is closely interwoven with the spinal system, each spinal nerve receiving branches from and transmitting branches to a neighboring sympathetic ganglion. The sympathetic system of nerves regulates the shortening and lengthening of all organic muscular fibres, it controls the contraction and dilatation of the blood-vessels, and consequently the amount of blood supplied to different parts, and the rapidity of its flow through them, and in this way in a certain degree it regulates the nutrition and functional activity of the organs and their temperature. It is also probable that the sympathetic system exerts a direct influence over the glandular organs of the body. This affords a rational explanation of nutritive and functional difficulties occurring in the course of cerebral and spinal anæmia,—functions of different parts and organs being impaired, exalted, or perverted.

Spinal anæmia is a disease of capillary contraction and bloodlessness of the spine. It is a functional disease, and there are, so

far as present knowledge exists, no morbid structural changes. In making a diagnosis between anæmia and other morbid states of the spinal cord, such as spinal meningitis and spinal congestion, we must bear in mind that in the latter diseases the spine is not tender on pressure. If there is disease of the vertebræ, we have spinal tenderness; but such disease is usually found under the age of 15 or 20 years. Again, if there should chance in spinal anæmia to be an apparent projection of the tender vertebræ, which would lead us to suspect caries of the vertebræ, we shall find that it is *not* a real projection, displacement, or curvature, but merely a *simulation*, depending on puffing of the ligaments and investments of the spine. If there were diseased vertebræ, we should find paralysis of the lower limbs in all probability, while we almost never find this in spinal anæmia. Another diagnostic point of importance is the fact that spinal anæmia is relieved by lying down, while in spinal congestion, meningitis, and myelitis the symptoms are all worse after a night's sleep. Another means of diagnosis, as Prof. Wm. A. Hammond has pointed out, is found in the action of hypodermic injections of strychnia, which relieves spinal anæmia, while it intensifies the symptoms of congestion, meningitis, and myelitis. As the same author has remarked, the contractions in anæmia are painless, while in myelitis they are accompanied with great suffering.

Cerebral anæmia is a decrease in the amount of blood circulating through the brain in a given space of time, the dilating and contracting power of the blood-vessels so altering their calibre and thus permitting a diminution in the flow of blood. During sleep there is a period of temperate quiescence of the brain, during which time it is pale and bloodless.

Alterations in the vascularity of the brain are due partly to the presence of the cerebro-spinal fluid, the brain becoming more vascular as the amount of the fluid is diminished, and as the vascularity decreases the bulk of the fluid increases. As I have stated elsewhere, the amount of blood going to the brain is a fifth of the whole bulk of the blood: a reduction, therefore, in the usual supply of blood will soon become apparent in the cerebral circulation. As an illustration of this may be mentioned constant drains on the system, such as morbid growths, imperfect

nutrition, and dyspepsia. Spanæmia is a cause of cerebral anæmia, arising as it does from malarial poisoning, lithiasis, and prolonged administration of certain drugs. Cerebral anæmia may be produced by unfilled vessels, heart disease, organic disease of the cerebral vessels, venous stasis, apoplexy, vaso-motor disturbances of the cerebral vessels.

The principal causes of anæmia of the brain are, as I have remarked above, those that diminish the entire amount of blood in the brain, such as hemorrhage, exudation, and fevers; the congestion of other organs of the body with blood; the compression or obstruction of arteries supplying the brain; mental excitement, which causes innervation or spasmodic contraction of arteries; diminution of the space in the skull by exudations, extravasations, or tumors; and leucocythæmia. The causes of spinal anæmia may arise from congenital predisposition, and include everything which tends to induce a nervous temperament and all things that tend to exhaust vital power. Cerebral anæmia may come on quite suddenly and severely, or it may come on slowly and be less severe. In cases of the former description, patients are attacked with sudden dizziness, become insensible to impressions, and cannot move. They faint away with slight spasmodic movements. When the cerebral anæmia comes on slowly, we find symptoms of irritation, and subsequently paralysis. When the anæmia does not attain a high grade, only the symptoms of cerebral irritation are noticeable. Sometimes there are great disturbances of sensibility. Such patients complain of much headache in the forehead or occiput, and sensitiveness to light and sound, so that even daylight admitted into the room causes them great discomfort, and slight sounds are insupportable. These patients have flashes before their eyes, noises in the ears, and dizziness. We see this in women with metrorrhagia and other losses of blood. In the case of cerebral anæmia in children, we find that motor disturbances are most noticeable.

At times the symptoms of cerebral anæmia may be almost wholly confined to the mental functions. The mental action in cerebral anæmia, when disturbed, is quick, irritable, and tending to convulsive irregularities. The state of anæmia, if carried beyond a certain point, will destroy functional excitability and the activity of the

brain. In cerebral anæmia, when the mental functions are affected, we see a pale face, cool head, and weak pulse, the cerebral organs being in a state of irritable weakness, easily excited by action; the action, however, being powerless and irregular. Some of the most violent maniacal attacks I have ever seen were in cases of insanity, when the pathological state was one of anæmia of the brain. Examination of the heart in these cases reveals systolic and diastolic bellows-murmurs heard most plainly at the base of the heart, and also venous murmurs.

The prognosis in cerebral anæmia and spinal anæmia is generally good, if no organic disease exists; but if anæmia of the brain depends upon diseased vessels or organic disease of the heart, the prognosis is bad. Cerebral anæmia, if not checked, passes on to melancholia and dementia, ending in psychical torpidity and intellectual decay. The dementia resulting from cerebral anæmia begins in one of two ways, either gradually and at first by imperceptible encroachments, or by maniacal excitement. Its acme is a mental state of profound stupidity. In cases of dementia the amount of cerebral atrophy which ensues may be calculated upon by the enfeeblement of mental power. We certainly have some atrophy, and this amount will generally be found to correspond with the degree of mental decadence present.

Treatment.—The treatment must be psychical and physical. With regard to the first, as soon as the system is somewhat improved, change of scene, travelling, and cheerful society are to be recommended, while the physical or medicinal treatment consists in primarily toning up the system and improving both the quantity and the quality of blood circulating in the brain and spinal cord. If our patients are much debilitated, we must keep them in a recumbent position and obtain rest for body and mind. All emotional disturbances must be carefully removed. Iron, in combination with the chloride or the phosphide of arsenic, or arsenious acid, may be given, and alcohol must be freely administered. The constant galvanic current is also a valuable remedy. To lay down a general plan of treatment for cerebral anæmia would include the administration of stimulants, tonics, and plenty of milk, eggs, and beef. Cod-liver oil with phosphorus is also indicated.

In cases of spinal anæmia and irritation, the first great means of cure reside in the judicious employment of counter-irritation to the affected portion of the spine; and I have found the compound mustard liniment, made up with fresh oil of mustard, so that the liniment possesses a strong, pungent odor, applied on flannel or cotton batting to the affected region of the spine, and the whole covered with oil-silk, the most efficacious method of counter-irritation, and have obtained excellent results from its use. Besides putting patients suffering from spinal anæmia on a full nourishing diet, I am in the habit of prescribing stimulants in liberal doses. Old pure port wine is very good when it agrees with the stomach, and, when it does not, brandy or whisky, both of which have the advantage of possessing more alcohol. I also obtain the most excellent results from the use of the constant current of electricity to the spine, applying the current twice a day for a few minutes at each sitting. Next in importance I rank phosphorus, which is best administered in cod-liver oil in doses of one-tenth to one-fiftieth of a grain after meals. The oil acts on the nutrition of the central nervous system, which it tends to preserve in its organic integrity, while the phosphorus is new food and builds up the exhausted nervous system, having a special stimulating power. A combination of strychnia, quinine, and tr. ferri muriat., with glycerin as a menstruum, has also given me good results, as has Dr. Hammond's pill of phosphide of zinc and extract of nux vomica. By judicious treatment and the removal of all causes calculated to keep up cerebral and spinal anæmia, we shall obtain the most gratifying results. Our patient will improve in personal appearance and weight, the spinal tenderness and the attendant neuralgic pains will disappear, all the symptoms will decrease in intensity and finally disappear, and a permanent cure will be obtained, to the satisfaction alike of the physician and the patient.

COMBINATION OF THE ALKALOIDS OF CINCHONIA WITH MORPHIA.

BY P. C. SKILLERN.

AS medical science progresses, the administration of remedies becomes more apparent and advantageous to the

profession. Especially is the combining process to be recommended; for by this means certain effects are obtained which could not be arrived at in any other way.

Having noticed various paragraphs in the different journals alluding to the combination of quinia and morphia in malarial fevers, and having observed other important advantages of their combined effects, I feel no hesitancy in reporting them.

Dr. Lewis, of Tennessee, noticed that patients who received morphia with quinia recovered with greater rapidity than those who did not take the opiate, and that a ten-grain dose of quinia combined with a third of a grain of morphia would break up an intermittent attack with far greater certainty than would twenty grains of quinia alone. He also records four hundred and sixty-one cases of malarial fever. Three hundred and seventeen of these received morphia with quinia, and the average number of chills occurring subsequent to date of attendance was $1\frac{1}{3}\frac{1}{4}$. The remaining one hundred and forty-four cases took quinia without morphia, their average being $3\frac{1}{4}\frac{1}{4}$, showing undeniable evidence of the value of uniting the two drugs. I find in the *Medical Times* a case in which a chill was arrested by morphia alone.

A few illustrative cases of the combined treatment may not be amiss.

Case I. was a double quotidian, in which quinia was used for two days, in the proper doses and at the proper time. It gave considerable relief, but did not give entire exemption from the paroxysms. The next day, alternate flushes of heat and chilly sensations presenting themselves, and the patient complaining of a peculiar painful sensation in the lower limbs, cinchonia and opium were prescribed,*—the cinchonia in the same doses and at the same time that the quinia had been given. The patient dozed quietly for a few hours, and awoke, free from fever and pain, just about the middle of the aborted paroxysm.

The following day the fever assumed the quotidian type. The powders were given as had been previously done, beginning a few hours before the expected paroxysm. This cut short entirely the attack.

Case II.—Cinchonia was prescribed, the patient protesting against it, declaring that it always caused such disagreeable symptoms, such as dizziness, dull headache, flushed face, etc. Ten grains having been taken, all the

above symptoms appeared. It was then combined with opium, and had the desired effect, without causing any of the unpleasant troubles.

Case III.—Cinchonia administered in small doses could not be retained. It was given in solution, in cache de pain, and in powder, but as often produced vomiting. Upon being combined with opium, all the nauseating symptoms disappeared.

Case IV.—Quinia gave rise each time to an intense scarlatinoid rash after three different doses. On addition of morphia, no such eruption was noticeable.

In conclusion, I think it may be claimed that:

1. By a combination of the cinchonia alkaloids with opium, a much better effect is obtained; a paroxysm being aborted with much more certainty, and a much earlier and more complete cure insured.

2. Only half the amount of quinia or cinchonia is required.

3. It relieves any painful sensations which might be associated with periodic affections.

4. Exemption from certain disagreeable effects upon the brain,—headache, tinnitus aurium, etc.

5. It enables the stomach to retain quinia much more readily.

6. Large and continuous doses of quinia or cinchonia may be given without producing cinchonism, if combined with morphia.

CANNABIS INDICA IN THE TREATMENT OF EPILEPSY.

BY WHARTON SINKLER, M.D.,

Attending Physician to the Infirmary for Nervous Diseases, Philadelphia.

INDIAN hemp has been known as a remedy in migraine for several years, and it was especially recommended by Dr. Russell Reynolds and the late Dr. Anstie.† These writers advised the use of the preparation during an attack of sick-headache, and found it of value. In 1872, Dr. Richard Green published in *The Practitioner* an article on the continued use of cannabis indica in migrain, and reports six cases in which the attacks were either lessened in severity or were checked altogether by doses of one-third to one-half grain of the alcoholic extract given twice a day. Dr. E. C. Seguin, in a paper read before the

* In powder, the alkaloid cinchonia being used, and not the salts of cinchonia.

† Neuralgia and Diseases that resemble it, p. 240.

New York Academy of Medicine in November, 1877, speaks of having followed Dr. Green's plan with great success.

Having myself seen several cases of migraine in which the continued use of Indian hemp had proved of decided benefit, it occurred to me that the same drug should also be useful in epilepsy, a disease which is so closely allied to migraine. This relationship between the two diseases is spoken of by Anstie,* who remarks on "the close connection between the predisposition to migraine and the predisposition to epilepsy," and further on he says, "it is difficult to avoid the inference that both the epileptic and the neuralgic affections of this critical period [*i.e.*, the period of puberty] are the expression of a morbid condition of the medulla oblongata."

I determined, therefore, to test the medicine at the earliest opportunity; and the following case was the first suitable one that came to me:

Joshua C., æt. 10 years, applied for treatment at the Infirmary for Nervous Diseases, November 5, 1877. He is the second of four children: the eldest is dead, but the others are healthy. His parents enjoy good health, except that the mother often has headaches. He had no fits in infancy, and was always strong and well, having had no sickness except measles. He was always an active, ambitious child, and was bright at school. His mother says, however, that his teacher was strict and exacting with him. In April, 1877, he was bitten by a dog, but the wound was cauterized, and no effects followed the bite. In June of the same year he had his first attack: his parents describe it as being like a faint, and lasting about five minutes. The only cause which they could assign was that he had been playing in the sun and had been bringing home heavy loads of wood. Following the first attack, he had one or two every day for the next two months. At this time he had a convulsive seizure. The movements were confined principally to the right side, including the right side of the face, and foam and blood came from his mouth.

After the beginning of the severe attacks the lesser ones ceased, and now the fits occurred chiefly at night. He had four or five attacks every night, at pretty regular intervals of about two hours. Although he had no attacks during the day, he became vicious and savage and lost his memory and intelligence.

He was treated with bromide of potassium and *tr. ferri chlor.*, but these medicines only modified the attacks; as soon as the bromide was stopped the attacks became more severe than ever.

Present state.—He is anæmic and poorly nourished, and has a functional cardiac murmur. There is no phimosis. An ophthalmoscopic examination reveals haziness of both discs and considerable tortuosity of the veins, which are somewhat dilated. Ordered potassium bromide gr. x t. d.

January 18.—Patient continues to have many attacks. He has taken but little bromide, the original prescription two months ago never having been renewed. Ordered bromide gr. xv t. d.

March 6.—For about two weeks while taking sixty grains of bromide a day he was better, but lately he has relapsed. His mother has been giving him about one hundred and twenty-eight grains daily, on her own responsibility, with no effect on the attacks. Ordered potassii bromid. gr. xxx, with ext. ergot. fld. gtt. xx t. d.

April 3.—He has one attack daily and three every night. Sodium bromide was substituted for the potassium salt.

June 5.—The patient is worse. "The bromide makes him stupid," his mother thinks. He has from three to seven attacks at night, and never escapes them for one night. He is very savage, and is inclined to attack people; does not hesitate to throw large stones at them with his whole force. The bromide was stopped, and zinc oxid. gr. ii t. d. given.

June 19.—He has had but three attacks since his last visit. They were less violent. He is not as stupid. Increase the zinc to gr. viii daily.

June 26.—The attacks have again increased in frequency; there has been one every night since the last note, and, in addition, one each day for the past three days. I now discontinued the zinc, and ordered ext. cannabis indicæ gr. $\frac{1}{2}$ t. d.

July 17.—He had attacks daily for one week after his last visit, but for the past two weeks he has had none of any kind. His temper has changed greatly for the better.

August 7.—It is now five weeks since he has had a fit. His mental and moral condition has improved wonderfully. He is not at all irritable, and reads and spells readily. At one time he seemed to have forgotten all that he had previously learned.

September 16.—I saw the patient to-day, and he has continued free from attacks. It is, therefore, almost three months since he has had a fit of any kind. He has taken none of his medicine for ten days, but I ordered it begun again.

Of course it may be said that the case has not been under observation long enough to make the ultimate result certain; but there is no question of the patient's improvement while taking the cannabis, and considering the severity of the case the gain seems so remarkable that I think it will warrant a further trial of the drug.

* Op. cit., p. 156.

I have had the opportunity of using the remedy in but two other cases of epilepsy. Of these, one did not return after the first visit. In the other there has not been sufficient time to give the drug a fair trial. The case is that of a young woman of nineteen, who has had for seven years four or five fits a week. She suffers from great mental depression with a suicidal tendency. Under the use of a quarter-grain of cannabis the fits have diminished in severity, but not in frequency, and the desire to commit suicide has disappeared. I am pushing the dose, and do not think we can judge of its effects until the physiological action of the drug is reached.

I have not been able to find any reference to the use of Indian hemp in epilepsy, and I have reported this case with the hope that it will suggest the trial of a remedy which may prove capable of relieving certain cases of a disease which is always most difficult of management by the usual means.

NOTES OF HOSPITAL PRACTICE.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINIC OF DR. FRANCIS DELAFIELD,

Adjunct Professor of Pathology and Practical Medicine.

(Reported for the *Philadelphia Medical Times*.)

HYDATIDS OF THE OMENTUM.

GENTLEMEN,—The patient before you is a German, 46 years of age, who is a tailor by occupation, and gives the following history of his trouble. He enjoyed good health up to three years ago, but since that time has not been well. He says that he first noticed that he was getting larger about the abdomen, and at the same time began to have more or less pain around the lower border of the chest, and affecting both sides about equally. When I first inquired if there had been any time since the enlargement first commenced when it disappeared altogether, I understood him to say that once, while in a hospital, fluid was drawn from his abdomen, but that it returned in about two weeks after he went back to his home. When, however, I asked him how often he had been tapped, he stated emphatically that he had never been tapped at all, and that the abdominal distention subsided either spontaneously or as the result of the medicines he took while in the hospital. He furthermore

states that he has been about as large as he is at present for the last four weeks, and that this is not the first time that his abdomen has been swollen to the same size. His feet have never been swollen, but at times he has complained of a prickling sensation, as though produced by the points of pins or needles, upon the outer surface of the thighs.

He says that he is able to eat comparatively heartily, and that he has never been troubled with vomiting or indigestion. He suffers somewhat, however, from shortness of breath. If his own statement in regard to the matter is to be accepted, he has never been much of a drinking man, and is only accustomed to taking a couple of glasses or so of beer a day,—never more than four. He never drinks “schnapps,” the taste of which he appears to dislike, and never gets intoxicated.

You have now heard the history. Here is a man who was well up to three years ago, but at that time noticed that his abdomen was swollen. This condition has continued ever since, though its size would seem to have varied very considerably at different periods. When the distention is marked, it causes him a good deal of discomfort, but he has never had headache, vomiting, or swelling of the feet. He suffers considerably from dyspnoea; but this is not greater than can be accounted for by the swollen condition of the abdomen. He says he drinks only moderately of beer, and you observe that the color of his face and his general appearance are indicative of a pretty fair state of health. From the above history we naturally infer that the patient is suffering from ascites, and the most probable explanation of this condition would seem to be cirrhosis of the liver.

The next step is to proceed to a physical exploration, and find out whether the signs thus revealed will corroborate such a supposition.

In the first place, you notice that the man still has a good deal of fat, and, as has been previously remarked, is certainly unusually well nourished for one who has been suffering in the way we suppose for three years. On making palpation in the appropriate manner, however, I do not succeed in getting any wave of fluid, as I expected. The abdomen is very large, and is spherical in outline, and when percussion is made over the right half of it dulness

is found extending from the umbilicus to a point about five inches distant from it. There we get tympanitic resonance, and this extends about five inches farther down, when complete flatness again commences. While the patient is thus lying on the back, we find it necessary to elevate his head very considerably, on account of the annoying dyspnoea which occurs when he is in this position. Commencing again at the umbilicus and percussing over the left side of the abdomen, we ascertain the fact that there is uninterrupted dulness all the way down to the lumbar region. The same dulness is also found in part below the umbilicus, so that, as you observe, we get it over the entire abdomen, with the exception of the limited area upon the right side already alluded to. This, of course, shows that this space is the only part where the intestines lie close to the abdominal wall. Although making palpation with the greatest possible care, I am able to feel nothing whatever through the latter, which is very thick indeed in this patient.

The results of the physical examination, you see, do not, therefore, correspond with the probable diagnosis conjectured from the account which the man gave of himself. The history certainly seemed to be a pretty clear one of cirrhosis of the liver with ascites,—the only thing militating against such a supposition being the fact that he was decidedly better nourished than is usually found to be the case with such patients. But instead of the sensation of fluid, such as is met with in ascites, we felt that of a mass of somewhat greater consistence, and instead of percussion dulness on both sides of the abdomen, with the tympanitic resonance in the centre (produced by the intestines floating on top of the fluid), as is ordinarily found in ascites, we discovered the condition previously described.

How, then, are the physical signs found in this case to be interpreted? There are two conditions which might account for the phenomena here observed. In the first place, we might really have ascites, but with the fluid so confined that it could not move freely about the abdominal cavity. During the last three years the patient may have had an attack of peritonitis, and from this adhesions may have formed which now shut up the fluid in circumscribed spaces. This might possibly be the case; but I do not think it at all probable that it is the

condition here present. The other possibility is, the existence of some sort of a tumor within the abdominal cavity. This could scarcely be a very solid and hard mass, for if this were the case I am certain that its presence could easily be detected when palpation is made, notwithstanding the extreme thickness of the abdominal walls. I do not think, therefore, that we have here any form of solid tumor.

But we might have some kind of cyst. If this were a single large cyst, we would get a wave such as is obtained in ordinary ascites; and this is therefore to be excluded here. But if, instead of this, there were a number of cysts of small size, the wave would be absent, and we would have just about the physical signs presented in this case. Now, it is possible for a man to have such little cysts as this in his abdomen as the result of the presence of a certain parasite there, and this, it seems to me, is the condition that will most satisfactorily account for all the phenomena presented by the patient before us. I am of the opinion, therefore, that we have here a collection of hydatids, and in the sacs, if really present, there would, of course, be found the *echinococci*.

Hydatids are so rarely met with in the United States that we are not ordinarily on the lookout for them here. But in Germany, as is well known, they are much more common. In this connection it is well to bear in mind that our patient is a native of Germany, and that, as he informs me, he remained in Germany until he was sixteen years of age, and also that he has associated principally with Germans since he has been living in this country. From the physical signs presented by the abdomen here, I should say that it is altogether probable that the hydatids are connected with the omentum.

You will understand that the diagnosis in this case is not a positive one, but it could be rendered much more certain if tapping were resorted to. The abdomen has now become so distended as to give rise to no little inconvenience and discomfort, and I think it would therefore be entirely proper to resort to the aspirator here. Supposing that hydatids were present, the fluid drawn off might be either clear or turbid. If it were like clear water, no coagulation would take place on treating it with heat and nitric acid, and crystals of common salt would be deposited if

it were evaporated. In case it were turbid, the characteristic hooklets of *echinococci* would be discovered by the microscope, and we should infer that some of the hydatids at least had become destroyed.

TUBERCULAR PNEUMONIA.

The next patient whom I shall introduce to you is 50 years of age, and states that he has been confined to the house, and generally to bed, for the last three weeks. He is employed in a carriage-factory, and was able to attend to his work as usual quite up to the time of this attack. He says that he quit work one Saturday night feeling as well as usual, but that on Sunday morning he found that he had lost his appetite, that he felt very weak, and that he had a pain in his back and chest, together with soreness in all his bones, as he expresses it. He had had a slight cough for some time before, but now he began to cough more, and to have some shortness of breath. The cough was accompanied by expectoration, which was whitish or yellowish, but was never discolored with blood. He sometimes felt chilly and sometimes warm; but he does not think he really had any fever, although he had a great desire for cold drinks, either water or milk. His feet were never swollen, and he never had any nausea or vomiting. He says that he has lost a good deal of flesh, and that he is still very weak, and greatly troubled with dyspnoea on making any exertion. He also has some cough still, but this does not seem to be very annoying.

Here, you see, is the history of an acute attack, characterized by debility, cough, expectoration, dyspnoea, and pain about the back and thorax, which the patient does not locate with any distinctness. He is not aware of having had any fever; so that the temperature could not have been very high, though there can be little doubt that there was a certain amount of febrile action during the attack. At present the man looks very pale and somewhat emaciated, and his pulse is quite feeble and rapid. The history, you observe, is not at all a definite one; but yet it is sufficiently so, I think, to warrant us in making out a probable diagnosis, and I should be glad to have this suggested by some one of the class.

The first suggestion that I hear is pneumonia, and the second pleurisy. The latter is the affection to which I refer,—

pleurisy with effusion. Now let us see if a physical exploration will confirm this diagnosis. If pleurisy were present, we should undoubtedly get dulness on percussion over the lower part of the chest on one side; but, instead of this, I find that there is normal resonance over the lower part of the chest on both sides, while extending *upwards*, from a point on a level with the inferior angle of the scapula, on the right side, behind there is dulness. In front the resonance is everywhere good on both sides. The respiration and vocal resonance are also natural on both sides in front, and the heart is beating in a perfectly regular manner. On auscultation behind, however, I get bronchial breathing at a point corresponding with the middle of the inner border of the scapula on the right side. At this point there is also exaggerated vocal resonance, the sound of the voice being abnormally intensified and raised in pitch. To recapitulate, then: In front there is nothing to attract attention on either side of the chest; behind, the left lung is apparently perfectly normal in every respect; but on the right side, while there is normal resonance and respiration below the angle of the scapula, extending upwards from that point we find dulness, though not absolute flatness, all over the lung. The breathing is not so distinct here as in the corresponding portion of the left lung, while the voice is louder; and we also get an occasional subcrepitant râle in this part.

You observe, therefore, that we are obliged to give up the idea of pleurisy entirely; and the diagnosis at which I have now arrived is that of tubercular pneumonia. This is a form of pulmonary phthisis which is not at all common, and which is characterized by the more or less rapid filling up of the air-vesicles of a certain portion of one or both lungs with a deposit of tubercular origin. In this case the upper part of the lower lobe of the right lung has become thus affected. The portion of lung-tissue implicated is consolidated; but the attack producing this result, you understand, is very different indeed from an ordinary acute pneumonia. The symptoms described here, as we have seen, do not at all correspond with the latter: though, as I said before, it is quite a rare form of disease, yet the fact that this tubercular pneumonia does occa-

sionally thus occur, rapidly filling up the air-vesicles, as in this case, should lead us to be on the watch for it, and recognize it if we should happen to meet with it in practice.

Such being our diagnosis here, what is the prognosis? This is somewhat uncertain, although probably good. A portion of the right lung has now been consolidated for three weeks, and there is as yet no attempt whatever at resolution. The prognosis depends simply on what changes are going to occur as the result of this. The most favorable termination that we could expect would be a gradual absorption of the inflammatory products now choking up the air-cells, and the return of a portion of the affected lung-tissue to its normal condition. If this were the case, the remaining part would be converted into fibrous tissue, and then the patient would get well. If such a desirable result should occur, the man would be quite unaware that a portion of his right lung had lost its natural character and was now composed of this fibrous structure.

Instead of this altogether favorable termination, however, it is possible that a part of the affected lung may become softened, and, its tissue breaking down, a number of small cavities thus be formed. If this is the case, these cavities will undoubtedly communicate with the bronchial tubes; and, as a result, there will be a considerable amount of chronic bronchitis. There will still be dulness on percussion, and the man will continue to lose flesh and to feel weak and miserable. But this condition, also, might eventually result in a favorable issue; for the cavities might become surrounded with fibrous tissue, and the process of waste having thus been arrested, the patient would have a chance to get well. On the other hand, the cavities might become extended by the continued breaking down of the lung-structure, and the patient at last die of exhaustion.

Finally, the disease might spread very gradually, involving more and more of the substance of the lung, and the case run the ordinary course of chronic phthisis.

The treatment here will consist of a supporting regimen and the administration of such tonics as iron and quinine. In this case persistent counter-irritation is of the greatest importance, and the best form of it for our patient will probably be the ap-

plication of the tincture of iodine, which should be painted on the chest every day or so, or sufficiently often to keep up a little soreness of the skin. The man should be encouraged to walk out in the open air as much as possible (even though he feels weak and gets short of breath); he should have the best food that he can obtain; and, in short, should be surrounded by the most advantageous hygienic influences.

MYELITIS AFFECTING THE GRAY MATTER OF THE CORD.

Our last patient to-day is a young man, 26 years of age. Three years ago, he says, he began to have a burning sensation under his arms and extending around the chest, and this has continued up to the present time; being now more annoying than it was at first, he thinks. As he describes it, the area in which this sensation is felt seems to constitute a band about five inches in width, extending around the body. It is apt to be more severe at night, and sometimes flashes upon him very suddenly at that time. This is the only symptom that he has had until recently; but about four weeks ago he noticed that both the upper and the lower extremity on the right side were weaker than natural, and a fortnight since he began to be troubled with dribbling of urine. He experiences some pain under the right knee and about the right wrist, and when he walks is obliged to drag the limb on that side on account of its weakness. The grip of the right hand is not so strong as that of the left, and I find that sensation is also somewhat impaired in the right arm, though not, apparently, in the right leg. His eyesight is unimpaired.

In this history I wish you to notice particularly the peculiar burning sensation, describing a sort of circle around the thorax and seeming to increase in severity, and the fact that after a very considerable interval this has been followed by slight loss of power, diminished sensation, and trouble with the bladder. These symptoms, thus succeeding one another in the way that they have done here, strongly indicate the probability of some real lesion of the spinal cord, and I should be afraid, from what the patient tells us, that this had already effected certain changes in its structure. To be more precise, I should say that the symptoms described depend,

in all probability, upon an inflammatory process which has now been going on for a considerable time in the gray matter of the cord. In my own experience I have seen a number of individuals suffering from this condition, in which the affection commenced with the same symptoms which have been observed here; and hence I should be inclined to attach considerable importance to them. Apparently, the lesion is now extending for some distance along the cord, and if this is really the case we may expect the patient to gradually become worse. The bladder will become more affected, there will be increasing pain in the arms and legs, and contractures will also take place in the limbs. On the other hand, however, I may be mistaken in supposing that these symptoms depend on a lesion already considerably advanced; for they may in reality possibly be due to some temporary condition which in time will be relieved.

Our treatment here will be as empirical as the diagnosis, and will consist principally of strychnia, the dose being gradually increased from one-thirtieth to one-tenth of a grain.

TRANSLATIONS.

COTO BARK: ITS CHARACTER AND PROPERTIES.—Fronmüller (*Wien. Med. Presse*, 1878, p. 932; from *Allg. Med. Central Zeitung*) speaks of this new drug derived, like jaborandi, from the forests of Brazil. The nature of the tree from which it is derived is as yet unknown. As found for sale, it consists of irregular pieces, flat or slightly curved, two to three metres in length and eight to fourteen millimetres in thickness. The color is brownish red; the odor aromatic; the taste acrid, somewhat bitter, neither slimy nor astringent. Wittstein found as its chief constituents an ethereal oil, a volatile alkaloid like propylamin or trimethylamin, smelling like herrings, and soft and hard resins. According to Jobst, coto bark contains some fifteen per cent. of a crystallizable substance called cotoin, derived from ethereal maceration, and having the composition $C_{21}H_{20}O_6$. It crystallizes from water in light pale-yellow four-sided prisms; from alcohol in larger ones of a sulphur yellow. The taste is biting, re-

action neutral. It dissolves slightly in cold water, easily in hot water. Other specimens of coto bark afforded a different substance, crystallizing in yellow scales, wanting in the bitter taste of cotoin, and less soluble. Jobst called this paracotoin. Unfortunately, a solution suitable for injection has not yet been obtained. Coto was first employed clinically (in Germany) by Dr. Gietel in Munich. He used both the powdered bark and the tincture, one part of bark to nine of 85 per cent. alcohol. Gietel concluded that coto is a specific in diarrhoea. Burkart and Riecker, experimenting also with cotoin, came to the same conclusion as Gietel. Since February, 1877, Fronmüller himself employed coto in some two hundred cases of various diseases, of which ninety-three suffered with colliquative diarrhoea, and ninety-one from sweating of the same grave character. Of the various preparations employed, tinctura cotonis was used in one hundred and nine cases in the dose of about one hundred drops per day on an average. In twenty-four cases cotoin was used in the dose of 0.1 to 0.3 decigramme several times a day in powder. In five cases paracotoin was administered in somewhat larger doses; in five cases soft coto resin to the amount of 0.12 to 0.6 decigramme per day in pill form. The medicine was usually directed against the excessive diarrhoea or sweating; in a few instances against the loss of appetite. In ninety-two cases of colliquative diarrhoea occurring in typhoid fever and tuberculosis, fifty were entirely relieved, twenty-six were improved, and nine remained unaffected. In some cases the diarrhoea relapsed, but was again checked. In most cases, however, good stools were soon obtained. The best results were gained by large doses. The tinctura cotonis was given in water, and taken without difficulty. In a few cases the patient complained of burning and tickling in the throat; this appeared due to some want of care in preparation. Coto has the advantage over other similar remedies used in diarrhoea, that it *improves* the appetite. A medium dose of the tincture is fifty drops, thrice daily, given on sugar or in water. Fronmüller also used coto tincture in ninety-one cases of profuse sweating (in phthisis, etc.). In thirty-four cases the result was favorable; in thirty-six partly so; in twenty-one cases it was used

without effect. The influence only lasts over night; but coto is a good stomachic. Cotoin and paracotoin have the same effect in doses of .15 centigramme. x.

CASE OF HÆMOPHILIA NEONATORUM.—Eppinger, of Prague, reports the following case (*Wien. Med. Presse*, 1878, Nos. 25 and 27). The infant at birth weighed 3.06 kilogrammes. He suffered immediately after with general desquamation of the epidermis and profuse diarrhœa. His condition was forlorn: he showed bluish spots over the dorsal region. On the 10th of May, when the infant was one week old, there was bleeding from the navel, the mucous membrane of the mouth showed a bloody stain, and the hard palate ecchymoses. Later the tongue displayed successive crops of ecchymoses, so that it looked like a bloody sponge. Percussion developed dullness on the right side of the thorax, and the heart-sounds were muffled and circumscribed. Stools fluid and brownish; breathing shallow, voice hoarse. The infant died on the 12th, nine days old. Post-mortem examination was made two hours later. Specimens of the blood and other fluids had previously been carefully drawn in capillary tubes, and these were examined with the utmost care. Sections of the skin, tissues of the joints, etc., and also of the various infarctions in different organs, were examined, with the result of finding numerous monads apparently belonging to the species *monas hæmorrhagicum*. Eppinger's examination, which was most thorough, leads him to the conclusion that hæmophilia neonatorum is an infectious disease. The original paper is well worth perusal. x.

CASE OF PERFORATING ULCER OF THE FOOT—CURE BY REST.—Petel (*La France Méd.*, 1878, No. 60) says that the following causes have been brought forward in connection with the etiology of malis perforans pedis: 1. nervous; 2, vascular; 3, osseous; 4, mechanical. P. considers the latter as most usual, and gives notes of the case of a man 48 years of age admitted to the hospital with an ulcer of the variety under consideration. This man had suffered several years previously from some injury to the knee-joint, which confined him to bed during several months and caused him to bear more weight in walking upon the right foot than the left. A corn formed on the plantar surface of the great toe of this foot, near the articulation of the

first and second phalanges; five years later, in October, 1876, this became painful, and on cutting it a small abscess was opened, which gave relief. When the patient entered the hospital, in April, 1877, the great toe of the right foot was red and tumefied, and showed on its under surface a small ulcer surrounded by a ring of epidermis. A sound introduced into this ulcer passed through the joint, and could be felt under the skin of the dorsal aspect. The bones were not bare. Anæsthesia was limited to the edges of the ulcer. The treatment consisted in absolute rest in bed, with immobility of the joint. The ulcer was simply dressed with dry lint. At the end of three months the patient was discharged, cured. x.

EMBROIDERED LETTERS FOR THE DIAGNOSIS OF COLOR-BLINDNESS.—Stilling's tables, which are generally employed for the detection of color-blindness, make too severe demands on the sharpness of perception of many persons, and are therefore inconvenient in comparative examinations. In addition, they sometimes display unusual color-tones and are not entirely free from glitter. For these reasons Hermann Cohn (*Berlin. Klin. Wochens.*; from *Cbl. f. Pract. Augenheilk.*, April, 1878), while retaining Stilling's principle, and at the same time using Holmgren's method, suggests the employment of colored letters upon colored canvas. Cohn uses pale-green, pale-blue, pale-yellow, and light-gray letters on a rose ground, or vice versa, and makes them of zephyr. The size of the bits of canvas should be about four centimetres, that of the letters about two centimetres. The letters should not be prominent. x.

A CONTRIBUTION TO THE STUDY OF BRONZE PHLEGMON.—What Verneuil (*La France Méd.*, 1878, No. 60) calls bronze phlegmon is the affection designated by Velpeau as bronze erysipelas. This phlegmon appears frequently in connection with abrasions, complicated fractures, wounds by projectiles, etc. The persons in whom M. Verneuil has usually observed this affection have been drunkards, diabetics, or wounded persons who have previously suffered some lesion of the liver or kidney. M. Verneuil's conclusions are as follows: 1, bronze phlegmon indicates some lesion of blood or viscera in the patient; 2, it usually points to a fatal termination of the case. x.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 28, 1878.

EDITORIAL.

WITH the present number ends the eighth volume of the *Philadelphia Medical Times*. The past year, notwithstanding the universal business prostration, has been one of growth to the journal, and has served to strengthen the foundations upon which it rests. The editor takes this occasion to thank the numerous contributors to whom chiefly is due the wide reputation achieved by the journal, to ask a continuance of their labors, and to assure them that every effort is made to give their articles as wide a direct and indirect circulation as possible. To them is due the fact that no American journal is quoted more frequently at home and abroad than is the *Philadelphia Medical Times*.

To the subscribers the editor can only repeat the assurance that the quality of the journal will be steadily maintained and improved, and point to the past as the earnest of the future.

LEADING ARTICLES.

SALICYLIC ACID.

SALICYLIC acid was originally introduced into notice as a disinfectant, but before long came into favor as an internal medicament. Already it appears to be established as a most valuable remedy in certain disorders, and its literature has grown to great proportions. So far as we know, no recent article has appeared bringing forward all the data at command and showing the exact condition of our knowledge. To do this is the object of the present leader, which will extend over two numbers of the *Times*,—the first part being devoted to the physiology of the remedy.

When salicylic acid is given to man in

doses just sufficient to manifest its presence, symptoms closely resembling cinchonism result. These are fulness of the head, with roaring and buzzing in the ears. After larger doses, to these symptoms are added distress in the head, or positive headache, disturbances of hearing and vision (deafness, amblyopia, partial blindness), with excessive sweating. According to Reiss (*Berliner Klin. Wochenschrift*, 1875, p. 674), decided fall of temperature without alteration of the pulse is also present; but this is denied by other observers. The action upon the system of the acid and of its sodium salts (also ammonium salt, Martenson, *Petersb. Med. Zeitschrift*, 1875, 343) appears to be identical, and, as several cases of poisoning with one or other of these agents have occurred, we are able to trace the toxic symptoms. Along with an intensification of the symptoms already mentioned, there are ptosis, deafness, strabismus, mydriasis, disturbance of respiration, excessive restlessness passing into delirium, slow laboring pulse, olive-green urine, and involuntary evacuations. In some cases the temperature has remained about normal, but in others has approached that of collapse. The respiration seems to be characteristic, it being both quickened and deepened, often sighing. Sweating usually is very free, and the urine early becomes albuminous. Various local evidences of vaso-motor weakness may supervene, such as rapidly appearing bed-sores at points subjected to pressure, and transitory dark-colored maculæ on various parts of the body.* No death certainly† attributable to the acid has, so far as I know, been recorded. In certain cases the mental disturbance has been strangely prolonged, lasting for eight days. In some instances it is cheerful, in others melancholic in type.

When given to dogs by the mouth in large doses, salicylic acid is said to be usually vomited. According to Laborde (*Bull. de Thérap.*, xciii. 276), when from four to five grammes of the salicylate of

* For cases, consult *Deutsches Archiv für Klin. Med.*, xix. 319; *Centralblatt für Chirurgie*, 1877, p. 278,—401 grains salicylate of sodium taken in twelve hours; *London Lancet*, 1876, 2, 681; and *Berlin. Klin. Wochenschrift*, No. 4, 8, 1876.

† Various cases have been recorded of death occurring during administration of the acid. In one, recorded in the *Virginia Medical Monthly*, June, 1877, the acid may have led to the fatal result: forty-eight grains were taken in four hours. The symptoms were violent vomiting, headache, total unconsciousness, with stertorous breathing. Death occurred forty hours after the first dose. See also *Medical and Surgical Reporter*, 1878.

sodium are injected into the veins of the dog, the first result is a slight acceleration of the heart's action and of breathing, some efforts at vomiting, quietude, loss of muscular strength, with a decidedly ataxic gait, hebetude, stupor, and finally sleep. When death occurs, it is preceded by dyspnoea and general convulsions. Köhler is probably correct in attributing it to asphyxia.

After these general considerations, we can probably best get an idea of the physiological action of the drug by studying its influence upon the various systems in detail.

In regard to the action of salicylic acid upon the *arterial pressure*, observers are so much at variance as to leave the subject enveloped in mystery. Köhler (*Centralb. f. Med. Wissensch.*, 1876, pp. 163, 195) affirms that when salicylic acid or salicylate of sodium in solution is injected into the jugular vein, there is an immediate fall of blood-pressure, which after a large dose is very pronounced; in a short time the pressure rises to some extent, but not to the normal point, whilst the pulse-waves become excessively high and two or three peaked. As he found that the fall of pressure occurs after section of the depressors, vagi, and the cervical cord, he very naturally concluded that it was due to an action upon the heart itself. In opposition to these results, Prof. Sée (*Bulletin de l'Académie de Médecine*, 1877, p. 697) states that in his experiments there has been no action whatever upon the arterial pressure or on the pulse-rate.

Probably the most thorough study yet made of the action of salicylic acid upon the circulation is that of Danewsky (*Centralb. für Chirurg.*, 1877, p. 84). He found that at first the arterial pressure was increased, partly on account of an increase in the force and energy of the cardiac beat, and partly as the result of irritation of the vaso-motor centre. After large doses the arterial pressure finally fell from cardiac paresis.

It is possible that the variance in the results of Danewsky and Köhler simply depend upon the size of the doses employed, whilst the negative result of Sée was caused by his using the acid by the mouth and testing the blood-pressure before it was absorbed. Future studies can, however, alone settle the question, but the solution suggested seems probable in the light of Köhler's experience (*loc. cit.*), that

injections of solutions of the acid into the stomach of dogs and rabbits failed to affect the blood-pressure, although the sodium salt administered in a similar manner did depress the arterial pressure.

According to Sée, the action upon the nervous system of the lower animals is chiefly shown by the violent convulsions that precede death, neither the reflex power of the spinal cord, the general sensibility, nor the conducting power of the nerve-trunks being affected. M. Bochefontaine affirms, however (*Le Progrès Méd.*, 1877, p. 630), that in the frog the drug acts as a paralyzant, destroying the functional power of the spinal centres, whilst according to M. Laborde four grammes of a salicylate will produce in the dog profound cutaneous anæsthesia (*Ibid.*, 609).

In Köhler's experiments upon rabbits, the *respiration* during the injection of the acid or its sodium salt into a jugular vein was decidedly quickened, but after a short time the rate fell to much below the normal. Section of the vagi practised during the period of retardation still further lessened the frequency of the act.

Danewsky states (*loc. cit.*) that the quickening of respiration is due to an irritation of the pulmonary vagi, and not to an influence upon the respiratory centre; also, that after very large doses fatal failure of respiration occurs through a gradual or sometimes sudden depression of the centres.

Especial interest attaches to the action of salicylic acid upon the temperature. In Prof. Sée's experiments upon normal men and upon animals, very large doses (10 grammes for men) had no effect upon the temperature (*loc. cit.*, p. 697). The experiments of Dr. Paul Fürbringer upon rabbits, dogs, and men are in accord with this (*Zur Wirkung des Salicylsäure*, Jena, 1875). M. Gedl, in twelve seemingly very carefully conducted experiments upon man, in which the doses varied from 46 to 78 grains, found that the effect in three cases was various, in two cases negative, in three a lessening of the daily alterations of temperature, in three a slight lowering of temperature, and in one a fall of 0.8° C. (*Centralblatt f. Med. Wissensch.*, 1876, p. 403). Danewsky states that in normal animals and man the influence of the acid upon temperature is very slight. The evidence just cited seems to show that salicylic acid, like quinine, has, in non-toxic doses, little or no decided action

upon the temperature in health. In fever the case is entirely otherwise. The original article of E. Butt (*Centralblatt für Med. Wissensch.*, 1875) has been followed by a great number of papers, all bearing evidence in the one direction. Many of these articles are abstracted in the *London Medical Record*, 1876, 193, whilst the others are scattered through medical literature.*

Without discussing these in detail, it is sufficient to state that they show that the drug fails in some cases, and should never be used to the exclusion of the cold bath and other similar remedies, but that it seems to be more certain and decided in its effects than is quinine; although this is denied by some who have used the drug.

The first effect of a single antipyretic dose in fever is usually a profuse sweat, which may appear fifteen minutes after the ingestion of the remedy (Ewald, *London Practitioner*, vol. xvi. p. 200). Very shortly after this the temperature begins to fall, and, according to Justi (*Centralblatt für Chirurgie*, 1876, p. 629), the depression reaches its maximum in about six hours. The sweating is profuse and exhausting, amounting, according to Ewald, not rarely to 750 grammes. The perspiration can scarcely be the only factor in the reduction of temperature, as there appears to be no relation between its amount and the degree of the fall, and it usually ceases before the latter reaches its maximum.

The statements in regard to the action on the pulse in fever vary so much as to suggest that when any decided lessening of the cardiac beat does occur, it is dependent upon the fall of temperature. Thus, Garcin (*Jour. de Thérap.*, 1876, p. 25), Oulmont (*Le Progrès Méd.*, 1877, p. 587), Moeli (*Deutsches Archiv*, xvii. p. 592), have all observed the pulse-rate to fall with the fever-heat, whilst L. Schroeder affirms that after moderate doses the pulse is slackened, after large ones quickened, and Ewald and other observers affirm that it is usually not affected. The antipyretic dose employed varies somewhat. Ewald gives as a minimum to the adult 75 grains, repeated in five hours if necessary; Justi, from 90 to 125 grains.

Owing to the insolubility of salicylic acid, the problem of the method of its absorption and of the state in which it circulates in the blood early attracted attention. Salkowski (*Berlin. Klin. Wochens.*, 1875, 297) pointed out that the acid in the blood probably exists in the form of a salicylate of sodium. The salicylate of sodium has little or no antiseptic power; and Prof. Binz, believing that the antipyretic action of a drug is dependent upon its antiseptic influence, asserts (*London Practitioner*, xvi. p. 443) that the acid is liberated in the blood by the carbonic acid formed in the tissues. The only basis for this assertion consists in the fact that, by passing carbonic acid gas through a solution of phosphate, carbonate, and salicylate of sodium, agitating with ether, and separating and evaporating the latter, crystals of salicylic acid are obtained. It is evident that if in the blood changes take place similar to those which occur in this solution, salicylic acid should be yielded to ether when the blood of an animal poisoned with the drug is shaken with it. Feser and Friedeberger found that unless enormous doses of the drug were injected into the blood so as to produce immediate violent convulsions and death, the vital fluid of the poisoned animal yielded nothing to ether. In Köhler's experiment (*Centralblatt für Med. Wissensch.*, 1876, 553), when salicylic acid is dissolved in normal blood no acid is yielded to ether, but when the blood of asphyxia, *i.e.*, blood supersaturated with CO_2 , is employed, a very notable amount of the acid is extracted by the ether.

Feser and Friedeberger (*loc. cit.*) have advanced the theory that the salicylic acid circulates in the form of an albuminate. This has received some support from the experiments of Farsky (*Sitzb. d. k. Akad. d. Wissensch.*, lxxiv., Bd. ii.), which seem to show that the acid is capable of forming such a compound.† On the other hand, the theory is contradicted by the results of Fleischer (*Med. Centralblatt*, 1876, 628), who digested albuminous solutions with the acid, and after coagulation by heat found all the acid in the filtrate; and who also treated the blood of poisoned animals in a similar way, and found the

* Consult also *Deutsches Archiv für Klin. Med.*, 1876, xv. 457, 518, 612, xvii. 162, xviii. 294, 314, 607, 692, xviii. 401, 452, 504; *Centralblatt für Med. Wissensch.*, 1876, xci. 198; *London Lancet*, 1877, ii. 812; *London Practitioner*, xvi. 200; *London Medical Record*, 1877; *Berlin. Klinische Wochenschrift*, 1875, 693; *Le Progrès Méd.*, 1877; *Bulletin de l'Académie de Médecine*, 1877. For information in regard to its action on pyæmic rabbits, see Fürbringer, *loc. cit.*

† He digested various albuminous substances with salicylic acid, washed them with ether until it would take no more acid, dried, washed with water, and found on analysis salicylic acid largely present in the residue.

salicylic acid only in the serum, the coagulum being free.

Viewing all this evidence together, it seems a probable conclusion that salicylates, when administered internally, enter the vital fluid and circulate there as salicylates, and that salicylic acid itself is probably converted by the alkaline juices of the alimentary canal into a salt, and as such enters the system.

Salicylic acid escapes from the body chiefly through the kidneys. Fürbringer failed to detect it in the fæces, the saliva, or the sweat, but M. Mussy found it in the saliva (*Bull. Thérap.*, xiii. 318), as did also M. Balz; and M. Oulmont detected it in the serosity of a blister. It appears in the urine very soon after its ingestion, but its elimination proceeds slowly. Thus, in a case of exstrophy of the bladder it was detected in the urine dripping from the ureters eight and a half minutes after its ingestion (Balz, *Arch. d. Heilk.*, xviii., S. 60), and it has been found in the urine eight days after the exhibition of the last dose (Byanow, *Centralblatt für Chirurgie*, p. 809, 1877). The latter observer also found it in the urine of a normal man as a salicylate twenty-five minutes after its swallowing. The same authority states that it is excreted partly as salicyluric acid,* partly as a form of salicin, and he believes to some extent as oxalic acid. Urine which had been passed some hours after the ingestion of a dose polarized to the left. Dr. A. E. Stuart (*London Practitioner*, xviii. 425), after so small a dose as nine grains of the acid, saw free, distinct crystals of salicyluric acid in the urine. It is possible that such of the salicylic acid as escapes unchanged from the kidney may, as first excreted, be in the form of a salicylate, but be set free by the phosphoric acid of the urine; at least such would be indicated by the fact that in Balz's case of exstrophy salicylate of sodium appeared in the urine twelve minutes before the free acid. The green color of the urine characteristic of the free use of salicylic acid appears to be due to an increase in the formation of indican (S. Wolfberg, *Deutsch. Archiv f. Klin. Med.*, xv. 403; M. Robin, *London Medical Record*, 1877, 151), or else to pyrocatechine (see *Bull. Acad. Méd.*, 1877, p. 705). The urine itself is often

augmented in quantity, but sometimes it is diminished.† It not rarely contains albumen, evidently the product of a local irritation of the kidneys. See reports (*loc. cit.*, p. 705) of a case in which the renal irritation was so severe as to give rise to hæmaturia. In regard to the solids of the urine, the testimony varies somewhat. See (*loc. cit.*) affirms that in gout the uric acid is greatly increased, and that both in health and disease the urea is unaffected. S. Wolfsohn (Inaug. Diss., quoted in *Centralb. f. Med. Wiss.*, 1877, p. 30), on the other hand, determined an increase in the nitrogenous renal elimination. H. C. W.

CORRESPONDENCE.

SECOND ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

SARATOGA, August 29, 1878.

THE second annual meeting of the American Dermatological Association, which has just closed its sessions, has been in every way a success. A large proportion of the dermatologists of the country were present, and the papers read were for the most part worthy of their authors and of the occasion. The president of the Association, Prof. White, opened the session by a brief address, alluding to the work done in dermatology in this country during the past year, and welcoming the members of the Association. Appended to the president's address, when printed, will be found a complete bibliography of American dermatology for 1877-78, forming a fitting continuation to the bibliography published last year.

The first paper read was by Dr. Atkinson, of Baltimore, on the "Pigmentary Syphiloderm," an affection the existence of which has sometimes been denied. Dr. Atkinson, however, is a believer in the existence of such a disease, and, judging from the opinions expressed during the discussion of the paper, such was the general opinion of the members of the Association, though there seemed a demand for further observation. Dr. Duhring, of Philadelphia, read notes of a "Case of the so-called Xeroderma of Hebra," a very rare affection, showing a simultaneous eruption of pigment deposits and telangiectases, with patches of atrophy. A paper by Dr. Fox, of New York, "On the Proper Use of the term Acne," gave rise to a lively discussion on the etiology and pathology of the various affections which have rightly or wrongly been included under this term.

* Salicyluric acid is a parallel compound to hippuric acid, made by the union of the elements of a glycol with salicylic acid.

† A curious fact noted by Balz in a case of icterus was the disappearance of biliary coloring-matter from the urine under the influence of the acid (*Centralb. Med. Wiss.*, 1877, 425.)

One of the more "practical" papers was that of Dr. Hardaway, of St. Louis, on the "Treatment of Hirsuties." The galvanic cautery was the means preferred by Dr. Hardaway, who gave the credit of its introduction to Dr. Michele, an ophthalmologist of St. Louis, who recommended cauterizing the papilla for the permanent removal of "wild hairs" from the eyelids some years since. Dr. Hardaway claimed that his method of removing superfluous hairs was both rapid and certain. He was accustomed, he said, to employ a battery of from eight to twenty cells, the negative pole of which was connected with a needle fastened in a penholder-handle, while the positive electrode was composed of a sponge, applied to the skin in the neighborhood of the part to be operated upon. With the aid of a small lens the needle was inserted into a follicle alongside of the hair, and retained until a whitish froth could be observed issuing from the mouth of the follicle. The hair could then be lifted gently out with forceps. Should it fail to come readily, the operation should be repeated. With twenty elements a second or two was long enough to destroy the papilla; with fewer elements the operation was slower, but less painful. In one case he (Dr. Hardaway) had removed one hundred and sixty hairs in thirty minutes, at one sitting. The size of the needle used was cambric No. 13. Another method, suggested by Dr. Michele, had also been employed successfully by Dr. Hardaway, namely, the injection into the hair follicle by means of a hypodermic syringe of a single drop of the following solution: *zinci chlorid.*, 3ii; *aquæ*, 3iii. The superfluous fluid should be removed at once. This last method, Dr. Hardaway said, could be confidently recommended where electrolysis could not be employed. In the discussion which followed the reading of Dr. Hardaway's paper several other plans of treatment were suggested by different members. Dr. Piffard said he was accustomed to pull out the hair immediately before introducing the needle. The latter should be made of irido-platinum wire, which could be drawn very fine without losing its stiffness. Dr. Duhring said he had employed a simple glover's needle, rotated in the follicle, with success.

One of the features of the second day's session of the Association was a lecture by Dr. Heitzmann, of New York, on "Epithelium and its Performances." This lecture, which was nearly two hours in delivery, was spoken, without notes, with the utmost fluency and clearness, and was illustrated by numerous drawings sketched impromptu by the lecturer as he spoke. The histology of the epithelial cell, its origin, growth, and relationships with the other elementary tissues of the body, were treated with great fullness. In conclusion, Dr. Heitzmann alluded to the importance of a correct and thorough knowledge of the nor-

mal histology of the skin in the study of dermatology, and urged the further and more thorough cultivation of the subject.

Dr. Duhring's second paper, entitled a "Case of Inflammatory Fungoid Neoplasm," gave a very thorough description of a form of disease so rare as to be almost unknown. The description of the case was illustrated by microscopic sections, photographs, water-color drawings, and finally by the patient in person. Other papers were read, by Dr. Piffard, of New York, on "A Case of Gangrænosis" (the "noma" of other writers); by Dr. R. W. Taylor, of New York, "A Further Contribution to the Study of the Xeroderma of Hebra;" by Dr. Van Harlingen, of Philadelphia, "A Case of Ulcerative Scrofuloderma;" by Dr. F. P. Foster, of New York, "A Case of Scleroderma;" by Dr. Atkinson, of Baltimore, on "The Botanical Relations and Life-History of Tricophyton Tonsurans;" and a therapeutic paper was read by Dr. Sherwell, of Brooklyn, on "The Use of Linseed and its Oil as Therapeutic Agents in Diseases of the Skin." Dr. Sherwell recommended the administration of linseed and linseed oil in cases where the effect of *ol. morrhue* is desired, but where, for one reason or another, this cannot be administered. He had used it with great success,—simply eaten as meal, or made up with bran or wheat bread.

The report of the Committee on Classification and Nomenclature, which was handed in on the last morning, was one of the most important events of the meeting. The high standing of the members of that committee, the laborious and thorough manner in which it had studied the subject, and the fact that whatever system of classification and nomenclature shall be finally adopted by the Association will be that of American dermatology in the future, made the acceptance of the report a significant action on the part of the Association.

After the adoption of this report no more business remained for transaction, excepting the retirement of the old and induction of newly-elected officers. These were announced for the ensuing year as follows: president, Prof. Louis A. Duhring, of Philadelphia; vice-presidents, Drs. S. Sherwell, of Brooklyn, and J. Nevins Hyde, of Chicago; secretary, Dr. R. W. Taylor, of New York; treasurer, Dr. J. E. Atkinson, of Baltimore. The retiring president made a few appropriate farewell remarks, presenting his successor as one who needed no introduction where American dermatology is known. Dr. Duhring, in taking the chair, thanked the Association for the honor it had conferred upon him. It should be his aim, he said, to try to bring about the hearty co-operation of all interested in dermatology; and he ventured to express the hope that the meeting of 1879 would bring out still more scientific work, and strengthen ties of friendship already formed among the mem-

bers of the Association. On motion, the meeting then adjourned, to meet next August in New York.

The system of classification and nomenclature adopted by the Association is given below. It will be seen that it is based essentially upon that of Hebra, with certain modifications.

Diseases of the Skin.

CLASS I.—DISORDERS OF THE GLANDS.

1. *Of the Sweat Glands.*
Hyperidrosis.
Miliaria crystallina.
Anidrosis.
Bromidrosis.
Chromidrosis.
2. *Of the Sebaceous Glands.*
Seborrhœa: *a*, oleosa; *b*, sicca.
Comedo.
Cyst: *a*, milium;
 b, wen.
Molluscum sebaceum.
Diminished secretion.

CLASS II.—INFLAMMATIONS.

- Exanthemata.
Erythema simplex.
Erythema multiforme:
 a, papulatum; *b*, bul-
 losum; *c*, nodosum.
Urticaria.
Dermatitis: * *a*, trau-
 matica; *b*, venenata;
 c, calorica.
Erysipelas.
Furuncle.
Anthrax.
Phlegmona diffusa.
Fistula maligna.
Herpes: *a*, facialis; *b*,
 progenitalis.
Herpes zoster.
Psoriasis.
Pityriasis rubra.
Lichen: *a*, planus; *b*,
 ruber.
Eczema: *a*, erythema-
 tosum; *b*, papulosum;
 c, vesiculosum; *d*,
 madidans; *e*, pustulo-
 sum; *f*, rubrum; *g*,
 squamosum.
Prurigo.
Acne.
Impetigo.
Impetigo contagiosa.
Impetigo herpetiformis.
Ecthyma.
Pemphigus.

CLASS III.—HEMORRHAGES.

Purpura: *a*, simplex;
 b, hæmorrhagica.

CLASS IV.—HYPERTROPHIES.

1. *Of Pigment.*
Lentigo.
Chloasma: *a*, locale;
 b, universale.
2. *Of Epidermal and Papillary Layers.*
Keratosis: *a*, pilaris;
 b, senilis.
Callositas.
Clavus.
Cornu cutaneum.
Verruca.
Verruca necrogenica.
Xerosis.
Ichthyosis.
 of nail.
Hirsuties.

3. *Of Connective Tissue.*

- Scleroderma.
Sclerema neonatorum.
Morphœa.
Elephantiasis Arabum.
Rosacea: *a*, erythematosa;
 b, hypertrophica.
Frambœsia.

CLASS V.—ATROPHIES.

1. *Of Pigment.*
Leucoderma.
Albinismus.
Vitiligo.
Canities.
2. *Of Hair.*
Alopecia.
Alopecia areata.
Alopecia furfuracea.
Atrophia pilorum propria.
3. *Of Nail.*
4. *Of Cutis.*
Atrophia senilis.
Atrophia maculosa et striata.

CLASS VI.—NEW GROWTHS.

1. *Of Connective Tissue.*
Keloid.
Cicatrix.
Fibroma.
Neuroma.
Xanthoma.
2. *Of Vessels.*
Angioma.
Angioma pigmentosum et atrophicum.
Angioma cavernosum.
Lymphangioma.
3. *Of Granulation Tissue.*
Rhinoscleroma.
Lupus erythematosus.
Lupus vulgaris.
Scrofuloderma.
Syphiloderma:
 a, erythematosum;
 b, papulosum;
 c, pustulosum;
 d, tuberculosum;
 e, gummatosum.
Lepra: *a*, tuberosa;
 b, maculosa; *c*,
 anæsthetica.
Carcinoma.

CLASS VII.—ULCERS.

CLASS VIII.—NEUROSES.

Hyperæsthesia: *a*, pruritus;
 b, dermatalgia.
Anæsthesia.

CLASS IX.—PARASITIC AFFECTIONS.

1. *Vegetable.*
Tinea favosa.
Tinea trichophytina:
 a, circinata; *b*, tonsurans;
 c, sycosis.
Tinea versicolor.
2. *Animal.*
Scabies.
Pediculosis capitis.
Pediculosis corporis.
Pediculosis pubis.

REVIEWS AND BOOK NOTICES.

NERVOUS DISEASES: THEIR DESCRIPTION AND TREATMENT. By ALLAN McLANE HAMILTON, M.D. With fifty-three Illustrations. Pp. 512. Philadelphia, Henry C. Lea, 1878.

A need has existed for a book on nervous diseases, clear, compact, comprehensive, and up to the times. This has been largely met by Dr. Hamilton's volume. The author, an able and industrious worker and writer, has already become well known to the profession through a small work on Electro-Therapeutics and numerous neurological contributions to American medical periodicals.

His introductory chapter is on (I.) Hints in Regard to Methods of Examination and Study, and (II.) The Instruments used for the Diagnosis and Treatment of Nervous Diseases. The hints include a scheme for the examination of patients, and brief but clear practical directions for making autopsies and preserving and preparing specimens for microscopical investigation. Among the instruments described are the surface thermometer, æsthesiometer, bar æsthesiometer, dynamometer, ophthalmoscope, electro-medical apparatus, rubber muscles, and cauteries. Descriptions and illustrations are given of a new dynamometer, and a new gas cautery, the latter modified by the author from an instrument first described by Dr. J. J. Putnam, of Boston. Both instruments are useful and valuable. A description of massage, and of Swedish movements so far as applicable to the treatment of nervous diseases, might with propriety and advantage have been incorporated in this chapter.

The classification and nomenclature adopted are, in the main, good. Nervous diseases in general are divided into diseases of the cerebral meninges, diseases of the cerebrum and cerebellum, diseases of the spinal meninges, diseases of the spinal cord, bulbar diseases, cerebro-spinal diseases, and diseases of the peripheral nerves. Epilepsy is included under the head of bulbar diseases, which is an arrangement of doubtful wisdom in the present unsettled state of the pathology of this disease. The term "asemasia" (from Greek words meaning an inability to indicate by signs or language), which the author suggests instead of "aphasia," is not, we think, as good as Steinthal and Kussmaul's simpler word "asemia." "Trigeminal" or "trifacial" neuralgia is to be preferred to "facial" neuralgia, the former indicating the nerve affected.

Among long chapters of particular merit we note those on cerebral hemorrhage, aphasia, brain tumors, posterior spinal sclerosis, tetanus, epilepsy, hysteria, chorea, and neuralgia; among shorter chapters, those on auditory vertigo, spinal tumors, antero-spinal

* These indicating affections not properly included under other titles of this class.

paralysis of infancy, antero-spinal paralysis of adults, and hystero-epilepsy. Diseases of the cerebrum are ably discussed, and are illustrated by about twenty wood-cuts of gross and microscopical lesions, of cerebral topography and localization, brain tumors, etc. The article on auditory vertigo is a good example of much in little. The diagram, modified from Radcliffe, and introduced under spinal tumors to explain the paralysis on the side of the tumor and the anæsthesia and analgesia on the opposite side, is of value; and the chart entitled the "Pathology of Hysteria," modified from Lauder Brunton, is curious and interesting. The discussion of post-paralytic states is instructive. Much attention has been wisely bestowed upon pathology, microscopical appearances receiving full consideration.

The introduction of cases frequently gives a freshness and interest to the pages which they would not otherwise possess. Sometimes, however, they have been presented without good reason, the cases themselves not being of sufficient importance to warrant a detailed account, and not being necessary to the elucidation of the subject. The method of handling subjects is also somewhat irregular: sometimes the author gives symptoms and cases, sometimes cases without a formal statement of symptoms. In a model textbook we should have a uniform plan of presentation. Among therapeutic novelties, he recommends the use of tri-nitro-glycerine for the same purpose as amyl nitrite in epilepsy. He says, however, that its reputation is almost enough to intimidate the patient, and, he might have added, more than enough to intimidate the doctor. His views on the employment of galvanism in the treatment of neuritis are directly contrary to our own experience. We have found a weak galvanic current often highly efficient,—better than faradization, which he prefers.

On the whole, after a careful reading of this book, we can commend it to the general practitioner and student as the work most likely to meet their requirements. The specialist also will find much in it to interest and instruct, as it is not wanting in original investigation,—clinical, climatical, histological, and pathological. The author shows a commendable familiarity with German, French, and English literature, and he has also, we are glad to see, not overlooked the American work to be found in text-books, special treatises, and periodicals. On one page (269), for instance, he has seven references to American journals; and the publications of Weir Mitchell, H. C. Wood, Hammond, Da Costa, Clymer, and others, have throughout received the attention which they deserve. The paper, typography, and illustrations are all good. Many of the latter were specially prepared for the work. The style is usually clear and direct.

C. K. M.

A PRACTICAL TREATISE ON THE DISEASES OF THE EAR, INCLUDING THE ANATOMY OF THE ORGAN. By D. B. ST. JOHN ROOSA, M.A., M.D., Professor of Diseases of the Eye and Ear in the University of the City of New York, etc. Fourth Edition; illustrated by Wood Engravings and Chromo-Lithographs. New York, William Wood & Co., 1878. 8vo, pp. 569.

In the number of the *Medical Times* for January 3, 1874, is contained an elaborate review of the first edition of the book before us. The work is intended by the author to be a guide to those who wish to treat diseases of the ear, and the reviewer then said that the intention of the author had been ably carried out. That a fourth edition should be asked for already, shows plainly how much the work is valued, and how thoroughly the medical public agrees with the opinion then expressed.

In the present edition no changes are to be noticed, except in the chapter upon Diseases of the Internal Ear, which has been improved, and many additions have been made in the discussion of this very interesting and difficult subject. We are, it is perhaps somewhat unnecessary to add, unable to see a great deal that is likely to benefit our patients in these additions. In other parts of the ear the surgeon can practise his art with chances of cure equal to those he can hope to have in other parts of the body. The diagnosis of their affections can be made in the most satisfactory and rational manner, and the results of treatment well foreseen. But when we come to the internal ear we are in entire darkness, everything is hidden from us; we can judge, it is true, of the sensibility of the nerve, but beyond that, every material lesion is completely beyond all our present means of investigation. It may be hoped, however, that the wonderful inventions of the past year can be so applied as to enable us to benefit sufferers now altogether beyond our reach. Until the present time we could only help to condense the waves of sound, and to have them conveyed without obstruction through the external ear, and maybe to clean the outside curtain that hangs across the little echo-cave, and leave it free to be blown in and out as each air-wave beats against it. The tapping-bones, once separated, we can never put together again, nor ever reach the inside curtain, where the sounds are condensed again and thrown through the liquids of the labyrinth, "where three thousand tuned nerves take up each its own according note and bear them to the brain."

By these recent inventions, which inspire us with hope,—all coming from the simple and accidental expedient of interrupting the electrical circuit with a finely-divided conducting material,—minute sounds may be magnified to the ear as minute objects are magnified by

lenses to the eye. We are told that "a touch of the finger on the vibrating plate of the telephone was conducted to the speaking end in volume of vibration like the rustle of a forest; the stroking of a camel-hair brush on a card was magnified into the sound of a loud whisper; and when a fly happened to walk over the plate, the tramp of its feet was most distinctly caught, like that of some six-legged horse trotting, and it was, moreover, heard to trumpet from its raised proboscis like an elephant in an Indian jungle."

Of the two special senses that preside over man's intellectual development, undoubtedly the hearing holds a higher position than the sight. A mute Milton can never be other than inglorious; the song of the blind shall sound for countless ages. In the French language, indeed, *entendre* is *to hear*, and *entendement* means the *understanding*. We have far more to learn in acoustics than in optics. Professor Morton stated a few days ago, and no explanation of the phenomenon was satisfactory, that in experimenting with a powerful steam fog-whistle it could be heard ten miles in one direction and yet be entirely inaudible in another direction at the distance of only a quarter of a mile. We have also more to learn of the anatomy, the physiology, and the pathology of the organ of hearing than of the organ of seeing.

There may be reason for believing that there exists now a sufficiency of good oculists, but none for believing this to be so as regards the more important specialty so well treated of in the work before us. W. F. A.

A CLINICAL HISTORY OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN. By ROBERT BARNES, M.D. Second American from the second English Edition. Henry C. Lea.

It is with pleasure that we announce a new edition of this book of established reputation. Many new illustrations have been added, the text carefully revised, and a new chapter written on the Relations of Bladder and Bowel Disorder to Uterine Complaints.

ANTAGONISMS OF THERAPEUTIC AGENTS. By DR. J. MILNER FOTHERGILL. Henry C. Lea.

This brochure, which received the Fothergillian gold medal of the Medical Society of London for 1878, is an excellent résumé of the subject, in its author's best style. The chief value of it, as of much of Dr. Fothergill's writing, lies in the rare sagacity with which the results of the experimentalists are applied to the needs of clinical medicine. The most novel and valuable part of the book is that devoted to the consideration of the respiratory use of strychnia. Our readers will, no doubt, call to mind the valuable discussion on this subject in one of the doctor's "London Letters," and we only hope that they will, as soon as may be, test and report

through the columns of the *Times*. We cannot abstract the brochure before us, but must be content with congratulating the Fothergillian medal on having so worthy a recipient.

GLEANINGS FROM EXCHANGES.

PREVENTION OF PUERPERAL FEVER (*The Boston Medical and Surgical Journal*, July 11, 1878).—Dr. W. L. Richardson, in his report on recent progress in obstetrics, alluding to the subject of the prevention of puerperal fever, quotes the following authorities:

"In 1870 Dr. Bischoff (Basle) advised that as soon as labor began a bath should be taken by the patient, and that during the whole of the labor the vagina should be washed out every two hours with a solution (two per cent.) of carbolic acid. The medical attendant should be careful to wash his hands in a solution (three per cent.) of carbolic acid, and should always anoint his finger with carbolized oil before making a vaginal examination. In cases where the fœtus was dead and decomposed, or where the hand had to be passed within the uterine cavity, the uterus should be washed out with a solution (three per cent.) of carbolic acid. During the convalescence frequent carbolized injections should be made into the vagina and uterus for thirteen days. Any visible wounds found in the vagina should be touched with a carbolic (ten per cent.) solution immediately after the termination of the labor, and a pad of wadding soaked in carbolized oil should be placed in the vagina and constantly renewed. This method has resulted admirably in greatly reducing the mortality and the numerous forms of mild puerperal diseases which were formerly of so frequent occurrence.

Professor Zweifel (Erlangen) advises, however, a method of procedure much more simple, and one which seems to yield equally favorable results. All vaginal examinations during pregnancy are made with the hand, which has first been anointed with carbolized oil; the vagina is subsequently washed out with a carbolic solution. All visible rents in the vaginal tract are touched with a mixture of salicylic acid and starch (one part to five). Fehling suggests that in addition to this the vagina should be syringed out several times a day with solutions (one-eighth to one-tenth per cent.) of salicylic acid.

A SIMPLE METHOD OF REDUCING PROLAP-SUS OF THE RECTUM (*The Hospital Gazette*, July 11, 1878).—Dr. J. C. Davis gives the following directions for reducing prolapsus of the rectum:

"If the patient be a child, place it on its back, flex the thighs and legs at a right angle to the body; let the nurse or an assistant hold them in this position; wipe the mucus or

other discharge from the prolapsed part; then take an old handkerchief, piece of soft linen, or cotton rag, place it loosely over the index finger and introduce it slowly into the rectum; the mucous membrane will adhere to the rag, and the part last descending will be the first to repass the sphincter. Carry the finger the full length up the rectum; then with two fingers of the left hand (one on each side) sustain the gut while withdrawing the finger. To remove the rag, keep up the counter-pressure with the fingers of the left hand, and pull gently, first on one side, then on the other of the handkerchief or rag, and in this way remove it from the rectum. If the patient be other than a child, place him in the "Sims position," and the same procedure will accomplish the object in view.

"The subsequent treatment, surgical or otherwise, will depend upon the causes which have produced the disorder.

"In behalf of this method, I would say that it has proved eminently successful in my hands for more than a score of years. Its claims are simplicity, facility, and rationality; there is no squeezing or bruising of the parts, hence little or no pain, unless the gut be inflamed. By the old method the manipulations of the surgeon cause the sphincter to contract sometimes forcibly, thereby making the reduction of the prolapsed gut more difficult.

"By the foregoing method the surgeon unties the knot; by the old, he forces it through a more or less tightly constricted sphincter."

CONTRACTION OF THE FINGERS (*The British Medical Journal*, June 29, 1878).—Mr. William Adams thus describes the operation and treatment which he now practises in cases of Dupuytren's contraction:

1. The subcutaneous division of all the contracted bands of fascia which can be felt; the bands to be divided by several punctures, with the smallest tenotomy-knife passed under the skin and cutting from above downwards, a pledget of lint being at once placed over each puncture and retained in position by a strip of plaster.

2. Immediate extension to the full extent required for the complete straightening of the fingers, where this is possible, and the application of a retentive well-padded metal splint from the wrist along the palm of the hand and the fingers; the fingers and hand to be bandaged to the splint.

3. The bandage not to be removed until the fourth day, when the lint and plaster may also be taken off, as the cutaneous punctures are always found to be healed by the fourth day. The retentive metal splint to be reapplied, and the hand and fingers bandaged to it.

4. Extension to be kept up by the splint worn continuously night and day for two or three weeks; but the splint and bandage to be changed every two or three days. After

this the extension splint is to be worn at night only for an additional three or four weeks, free motion being encouraged during the day.

TREATMENT OF GLANDULAR SORE THROAT (*The British Medical Journal*, July 6, 1878).—Dr. James Sawyer writes as follows of his treatment of this disease: Glandular sore throat, by which is meant catarrhal congestion or inflammation in and around the glandulæ of the mucous membrane of the pharynx and larynx, is a very tedious and troublesome affection. It has been known as dysphonia clericorum; it is, in fact, the chronic sore throat to which persons are liable who use their voices extensively, especially in large rooms or in the open air. Dr. Sawyer desires to draw attention to the usefulness of the topical application of borax in its treatment. He orders a saturated aqueous solution, which the patient applies to his throat by the aid of Corbyn's throat-spray. The spray should be employed for several minutes thrice or more frequently daily, and midway between meals. If the larynx be much implicated, the patient should inspire deeply while the spray is playing upon his throat. This very simple method of treatment has lately been found to be of striking service. The cure may be expedited by the application of astringent solutions to the pharynx and larynx by means of suitable brushes. When there is much secretion, extract of eucalyptus is a good local astringent, which may be used in the form of lozenge.

DIALYZED IRON.—Prof. Gowers (*London Practitioner*, July, 1878, p. 1) has, with the aid of the hæmacytometer, counted the red corpuscles of patients before, and at various periods after, taking this preparation. In the first case, an anæmic woman, the red corpuscles rose from 46 to 102 per cent. of the normal, in 34 days. In the second case, an extremely anæmic girl, the red corpuscles, before treatment, amounted to 26 per cent. of the normal, and after taking iron for 63 days to 92 per cent. Under the influence of the catamenia the number fell to 60 per cent., then rose to 70 per cent. The iron was now discontinued for 28 days, and at the end of that time the number of corpuscles had fallen to 56 per cent. The iron was resumed, and 7 days after the corpuscles amounted to 70 per cent. of the normal.

QUININE IN CHRONIC IRRITATION OF THE BLADDER (*The Lancet*, June 1, 1878).—Mr. J. Knowsley Thornton reports two cases of patients who, during convalescence after ovariectomy, were troubled with feverishness with constant and severe dysuria, and whose urine contained much mucus and was ammoniacal and offensive. For several days the bladder had been emptied and then thoroughly washed out with a tepid carbolic lotion, 1 to 100, four ounces being introduced and withdrawn until a pint had been used; two ounces being left in the bladder. This had not produced the slightest effect. Three

ounces of a solution of quinine, two grains to the ounce of water, with a few drops of dilute sulphuric acid to dissolve it, were then introduced and allowed to remain in a few seconds; then two ounces were withdrawn, the other ounce being left in the bladder, the patient having instructions not to pass water for an hour. The first patient had some smarting and forcing, which lasted for twenty minutes; the second no inconvenience whatever. In twenty-four hours it was noted as to them both, "Urine acid, much improved in general appearance; no mucus; odor normal." Two days later, "No more trouble; urine normal." A few weeks later another case of the same description occurred, and was treated in the same manner, with the same result.

DANGERS IN THE USE OF TINNED FRUITS (*The Lancet*, July 13, 1878).—Mr. W. N. Hartley calls attention to the dangers of using canned fruits when the tin in which they are contained has become at all corroded. He says, "Having lately had occasion to examine some liquid vomited during sudden sickness, with the view of detecting a poison of an unknown nature, either organic or metallic, I submitted it to a very complete chemical analysis. The absence of any poisonous alkaloid was proved by the process of Stas. Arsenic, antimony, and mercury were proved to be absent as well by Reinsch's process as by subsequent operations. A small quantity of a brown metallic sulphide was obtained, soluble in sulphide of ammonium, and reprecipitable from this solution by acids. The actual amount of precipitate was inconsiderable, only sufficient in fact to cover a very small filter. It was impossible to attempt any quantitative estimation of this substance, but it was decided to put its identity beyond doubt. This was done by reducing the sulphide to the metallic state by means of the blow-pipe. The minute globules of metal, which could not have weighed more than a few thousandths of a grain, possessed the color, hardness, malleability, and other properties of metallic tin. The minute quantity found was that only which had escaped absorption by the system, and in all probability much less than the whole amount taken. Having no further information concerning the case, I cannot say decidedly what was the source of this metal, but I was previously aware that it is occasionally present in the juice of fruit preserved in tins,—as, for instance, peaches."

ACCORDING to the last annual statement of the treasurer, Mr. Husband, the annual income of the British Medical Association is £11,000; the unexpended balance in bank £2000, besides £3000 invested in British consols. No longer ago than the close of 1871 the Association was in debt about £2000. The number of members "in full subscription" is 7500. The journal published by the Society is in a very flourishing condition, and

has removed to more commodious quarters in the Strand. The question of the admission of "lady members" was discussed at length at the recent meeting, and, in spite of a powerful speech from Mrs. Garrett Anderson, the following by-law was adopted by a very large majority: "No female shall be eligible for election as a member of the Association." We believe there are two "lady members" now members,—Mrs. Garrett Anderson and Mrs. Hoggan.

THE British Medical Association report references to one thousand seven hundred and forty-three reported cases of hydrophobia, mostly furnished by the United States Surgeon-General's Office.

NOTES AND QUERIES.

SHADYSIDE, MONTGOMERY Co., Sept. 16, 1878.

DEAR DOCTOR,—In the article on "Chloral Hydrate and Oxide of Zinc in Acute Intestinal Diseases of Childhood," there are two typographical errors which it would be well to correct. The baths, as I stated it, should be "never at a lower temperature than 30° to 35°" (not 86° to 85°); and in the recipe for oxide of zinc it should be "Aq. cinnam., q. v. ut ft. 3j" (not 3j).

Very respectfully yours,
JAMES L. TYSON.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 8 TO SEPTEMBER 21, 1878.

GREENLEAF, C. R., MAJOR AND SURGEON.—On return to winter-quarters of troops now at camp on the Marias River, assigned to duty as Post-Surgeon at Fort Shaw, Mont. T. S. O. 108, Department of Dakota, September 16, 1878.

HORTON, S. M., MAJOR AND SURGEON.—Granted leave of absence for twenty days on Surgeon's certificate of disability. S. O. 168, Department of the East, September 17, 1878.

HUBBARD, V. B., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Angel Island, Cal. S. O. 138, Division of the Pacific and Department of California, September 10, 1878.

VICKERY, R. S., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Plattsburg Barracks, N. Y. S. O. 164, Department of the East, September 11, 1878.

FITZGERALD, J. A., CAPTAIN AND ASSISTANT-SURGEON.—When relieved, to comply with S. O. 176, c. s., A. G. O., in his case. S. O. 108, Department of the Columbia, September 2, 1878.

HALL, WM. R., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Boise, Idaho, relieving Assistant-Surgeon Fitzgerald. S. O. 108, c. s., Department of the Columbia.

CUNNINGHAM, T. A., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 106, Department of Dakota, September 10, 1878.

LA GARDE, L. A., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Columbus, N. Y. H. S. O. 160, Department of the East, September 6, 1878.

INDEX.

- Abdomen, wounds of, 585, 593.
 Abortion, criminal, 286.
 Abstinence, total, 167.
 Acetic acid, injections of, 520.
 Aconitia, 339, 364, 388, 551.
 Acupressure, 46.
 Addison's disease, 97.
 Agnew, D. Hayes, 578.
 Albuminuria, transient, 108.
 Alcohol, benzoated, 528.
 new test for, 288.
 tampons, 45.
 Alcoholic drinks, 425.
 Alcoholism, chronic, 385.
 Allen, Harrison, 1, 432.
 Althaus on Nervous Diseases, review of, 189.
 Aluminium nitrate, 108.
 Amaurosis, 561.
 American Dermatological Association, 618.
 American Medical Association, 445.
 Ammonia, intravenous injection of, 262.
 Analyst, public, bill for, 254.
 Anatomy, uses of, 527.
 Anæsthesia, general cutaneous, 273.
 Anæsthetics in labor, 11.
 Aneurism, aortic, 58.
 Esmarch's bandage in treatment of, 347.
 innominate, 219.
 popliteal, 56.
 subclavian, 219.
 Anstie on Wines, review of, 237.
 Anthropology, 132.
 Aorta, aneurism of, 170.
 dilatation of, 95.
 double, 597.
 Aortic valve, stenosis of, 282.
 Aortitis, acute, 109.
 Apoplexy, 475.
 Appendix vermiformis, perforation of, 306.
 Arlt, Injuries of Eye, review, 477.
 Arnica, 407.
 Arsenic, 109, 206, 335, 444, 563.
 Arsenical poisoning, 104, 151.
 Asclepias Syriaca, 456.
 Aspergillus in ear, 438.
 Asthma, 206, 391.
 Astragalus, resection of, 537.
 Atropia, 335.
 poisoning, 418.
 source of, 293.
 Atropine and pilocarpine antagonistic, 538.
 Auditory meatus, foreign body in, 139.
 Axilla, cystic tumor of, 164.
 recurrent fibroid of, 595.
 Bacteria, 88.
 Baldwin, L. K., 533.
 Barnes on Medical and Surgical Diseases of Women, review of, 622.
 Bath, continuous, 374.
 Baths, cold, 253, 455.
 Beckwith, F. L., 30.
 Belladonna, 198, 252, 462, 551.
 Benjamin, D., 222.
 Benton on Aix-les-Bains, review of, 189.
 Berens, Joseph, 322.
 Berlin, physiological laboratory of, 167.
 Billroth, Surgery, review of, 308.
 Binz, Therapeutics, review of, 236.
 Bismuth, 158, 442.
 Blackwell, E. T., 556.
 Bladder, irritable, 383.
 quinine in chronic irritation of, 623.
 washing of, 300.
 Blood-stains, 564.
 Blue bile, 130.
 Boils, 407.
 Boracic acid, 109, 418.
 Borax, 178.
 Bose, B., Therapeutics, review of, 307.
 Bowditch, Public Hygiene in America, 355.
 Brain, bullet in, 312.
 Breast, tumors of, 80.
 hypertrophy of, 119.
 Brechemin, L., 296.
 Bright's disease, 276.
 British Medical Association, 587, 624.
 Bromhydric acid, 347.
 Bromide of ammonium, 296.
 Bromide of potassium, 399, 454.
 Bronchia, size of, 527.
 Bronchiectasis, 403.
 Bruchitis, treatment of, 186.
 Browne on Ophthalmoscope, review, 19.
 Brubaker, Henry, 174.
 Burnett, Charles H., 435.
 Burns, 273.
 Burns, Robert, 464.
 Bursa patellæ, 143.
 Bursitis, 559.
 Cadaver, preservation of, 95.
 Cæcum, 430.
 Calomel, 145.
 Camphor, brominated, 143.
 Cancer, 520, 538, 561, 592, 593, 597.
 Cannabis indica, 607.
 Carbolic acid, 142, 215, 372, 552.
 poisoning, 550.
 Carcinoma, recurrent, 350.
 Cataract, Von Graefe's method, 244.
 Catarrh, carbolic acid in, 142.
 Caudal appendage of man, 470.
 Cautery, actual, 263.
 Cerebral anæmia, 416, 604.
 localization, 331, 377.
 murmur, 86.
 Cervix uteri, gestation after amputation of, 222.
 laceration of, 21, 368.
 Chafing, 71.
 Charteris, Practice of Medicine, review of, 356.
 Chloride of ammonium, 316.
 Chloroform and morphia, 128.
 and rape, 137.
 Chlorosis, 251.
 Cholera, 542.
 Chorea, 563, 574.
 from embolism, 560.
 Chyluria, 16.
 Cinchona and morphia, 606.
 Cinchonidia, 226.
 Circulation, rapidity of, 409.
 Citric acid, 158.
 Clarke, Edward H., 144.
 Clavicles, fracture of, 95.
 Coffee-houses, 565.
 Cold, 253, 455.
 Collapse, 198.
 Collis's fracture, 289, 592.
 Colon, cancer of, 597.
 Color-blindness, 614.
 Colors, photographing, 287.
 Contraction of the fingers, 623.
 Convulsions, infantile, 582.
 Coto bark, 613.
 Cotoin, 613.
 Cox, W. C., 200, 219.
 Creasote, 129.
 Criminal abortion, 286.
 Curara, 131.
 Cyanide of potassium, 345.
 Da Costa, J. M., 433.
 Davis, T. D., 440.
 Deafness in Bright's disease, 276.
 Delirium tremens, 108.
 Denitition, pathological, 477.
 Diabetes, 191, 206.
 mellitus, treatment of, 32, 190, 452, 538.
 Dialyzed iron, 104, 151, 335, 623.
 Diaphragmatic pleurisy, 109.
 Diarrhœa, fatty, 452.
 of infants, 346, 582.
 treatment of, 32.
 Digitalis poisoning, 417.
 Dilated stomach, 180.
 Diphtheria, treatment of, 145, 158, 237, 286.
 Diphtheritic paralysis, 299.
 Disinfectant, a new, 456.
 Disinfection of hospitals, 358.
 Dispensaries, 62, 68, 133, 144, 322.
 Ductus choledochus communis, rupture of, 221.
 Duhring, L. A., 337.
 Atlas of Skin Diseases, review of, 406, 573.
 Dulles, C. W., 125.
 Dunglison's Reference Book, review of, 20.
 Duodenum, perforating ulcer of, 322.
 Dysentery, treatment of, 25, 115.
 Ear, Charles H. Burnett on, review, 116.
 Eczema, 509, 561.
 Electro-puncture, 48.
 Electrotonus, 201.
 Elephantiasis Arabum, 182.
 Emetia, 553.
 Encyclopædia, Johnson's, review, 70, 354.
 Ziemssen's, review, 116, 455.
 Endocarditis, ulcerative, 142.
 Enemata, 32.
 Engel, Hugo, 121.
 Engine, surgical, 49, 472.
 Enterography, 46.
 Epiglottis, syphilis of, 562.
 Epilepsy, 157, 607.
 treatment of, 131, 211, 454.
 trephining for, 578.
 Epithelioma, recurrent, 353.
 Erectile tumors, 274.
 Ergot, 7, 48, 66, 156, 174, 441.
 Erichsen's Surgery, review of, 211.
 Erythema nodosum, 156.
 Esmarch's method, 276, 298, 585.
 Ether, death from, 356, 455.
 drinking, 45.
 Eucalyptus, oil of, 301.
 Evans, Horace Y., 368.
 Eve, Paul F., 87.
 Extension apparatus, Levin's, 402.
 Extremities, Esmarch's method in disease of, 276.

- Facial palsy from ear disease, 176.
 Farquharson's Therapeutics, review of, 141.
 Feeding of children, 253.
 Femur, fractures of, 73, 239, 241, 476.
 Ferrocyanide of potassium, 400.
 Fibula, fracture of, 223.
 Fingers, contraction of, 623.
 Fistula ani, 158, 220.
 Flint, Austin, 505.
 Foetus, signs of death, 22.
 Foot, perforating ulcer, 614.
 Forearm, fracture of, 223.
 Fothergill on Antagonisms of Therapeutic Agents, review of, 622.
 Foulkrod, J. K., 553.
 Fownes's Chemistry, review of, 573.
 Fractures, compound, 464.
 Frick, A. P., 295.
 Frontal bone, fracture of, 285.
 Gall-stone, 221.
 Ganglion, 300.
 Garland, Pneumodynamics, 355.
 Garretson, James E., 49.
 Gastralgia, 285.
 Gastric juice, 479.
 ulcer, 8, 143, 440.
 Gastritis, 45, 505.
 Gastrotomy, 226, 312, 373.
 Gelsmium-poisoning, 150.
 Genitals, herpes zoster of, 276.
 Glandular sore throat, treatment of, 623.
 Glossitis, syphilitic, 205.
 Glycerin, 205, 264.
 Glycerite of kaphaline, 54.
 Glycogenic function, 215.
 Godfrey, E. L. B., 221.
 Goitre, 344.
 Gonorrhœa, 216.
 chronic, 117.
 Goodell, William, 169.
 Gout, 374.
 Granulated sugar, 144.
 Graves' disease, 7.
 Gross, S. W., 80, 601.
 Guaco, 538.
 Gurjun oil, 216.
 Hæmatocele, 466.
 Hæmatophilia neonatorum, 614.
 Hæmaturia, 413.
 malarial, 286.
 Hæmoptysis, 358.
 nervous, 204.
 Hamilton, Allan McLane, on Nervous Diseases, review of, 620.
 Hamilton, F. H., 73, 241, 289.
 Hammond, Cerebral Hyperæmia, review of, 429.
 Hand, amputation of, 224, 289.
 sarcoma of, 417.
 Hay, George, 28, 268.
 Haynes, Francis L., 577.
 Health officer in England, 424.
 Heart, cancer of, 259.
 disease, 153, 160, 416, 430, 475.
 disease, hereditary, 118.
 neuroses, 399.
 Heath, W. H., 558.
 Hemeralopia, 206.
 Hemiplegia, 512.
 Hemorrhoids, treatment of, 7, 48, 158, 215, 264, 550.
 Hepatic colic, 178.
 Hepatitis, 316.
 chronic, 208.
 Hernia cerebri, 456.
 fistulous, 46.
 reducible, 313.
 strangulated, 295, 407.
 Herpes zoster, 190, 528.
 Hiccough, 520.
 Hoarseness, 178.
 Holden's Surgical Landmarks, review of, 262.
 Homœopathy, 336.
 Hospital for the insane, 324, 348.
 stewards, 110.
 Sunday, 541.
 Housekeeper, F. P., 297.
 Humerus, dislocation of, 599.
 Humerus, fracture of, 289.
 resection of head, 536.
 Hydatids of liver, 86.
 Hydrocele, 191, 323.
 of the cord, 94.
 Hydrocyanic acid, physiological action, 179.
 Hydrophobia, 108, 166, 206, 237, 309, 411.
 Hypodermic medication, 277, 368, 401.
 Hysteria, 96, 158.
 Iliac arteries, ligature of, 17, 56.
 Imperforate anus, 94.
 Infants, varying weights of, 110.
 Infective processes, 229, 277.
 Infraorbital nerve, resection of, 32.
 Inhibitory function of spinal cord, 100.
 Innominate artery, aneurism of, 219.
 Insolation, 69.
 Intermittent fever, 552.
 International copyright, 521.
 Intestinal obstruction, 299, 310, 323.
 Intestines, polypus of, 323.
 wound of, 309.
 Intrathoracic pressure, 527.
 Intussusception of rectum, 256.
 Invagination, 323.
 Iodide of ethyl, 398, 347.
 of potassium, 398.
 Iodine, absorption by skin, 299.
 solution, 556.
 Iodoform, 236, 263, 286, 375, 562.
 Iodohydric ether, 346.
 Ipecacuanha, 553.
 Iron, 118.
 hypodermic use of, 107, 249.
 Jaborandi, 46.
 Jaundice, catarrhal, 9, 32, 288, 505.
 Jefferson Medical College Hospital, 34.
 Johns Hopkins Trust, 376, 419.
 Joints, inflamed, treatment of, 372.
 Keating, John M., 361.
 Keen, W. W., 294.
 Kidney, cancer of, 592.
 Kidney disease, relation to heart disease, 217, 595.
 Kidneys, suppuration of, 18.
 Knee, extraction of foreign body from, 399.
 Knee-joint, injection of iodine into, 585.
 Lactate of sodium, 156, 179.
 Lamadrid, J. J., 271.
 Landesberg, M., 244.
 Landis, H. G., 6.
 Lansing, Edward S., 7.
 Large intestine, irrigation of, 125.
 Laryngitis, 8, 23, 43.
 pseudo-membranous, 76.
 syphilitic, 129.
 Larynx, epithelioma of, 280.
 excision of, 216, 240.
 polypus of, 157.
 wounds of, 263.
 Lautenbach, B. F., 366, 512.
 Lead, excretion of, 276.
 Lead-poisoning, 21, 268, 276.
 Legs, unequal length of, 518.
 Leucocythæmia, 224, 301.
 Ligature, elastic, 220.
 Ligatures, amputation without, 31.
 Linn, G. Wilds, 29.
 Lint, paper, 294.
 Liquorice, 32.
 Lithotomy for foreign body, 106.
 Lithotrite, 526.
 Little, William S., 516.
 Liver, abscess of, 163, 166, 379, 454, 528.
 acute atrophy of, 443.
 cirrhosis of, 234.
 Locusts, 603.
 Loomis, A. A., on Fever, review of, 117.
 Lumbago, 8.
 Lung, abscess of, 213.
 syphilis of, 570.
 Lungs, gangrene of, 404.
 metastatic abscess of, 405.
 Lymphadenoma, 301.
 Lymphatic enlargements, treatment of, 109.
 Malarial fever, unilateral paroxysm, 540.
 Malthusian league, 120.
 Mammary chancres, 275.
 Mann, Edward C., 604.
 Marine hospital service, 586.
 Massey, G. B., 368.
 Mastoid disease, 522.
 Mattison, R. V., 151.
 Maxilla, tumor of, 92.
 McCall Anderson on Clinical Medicine, review of, 211.
 Medical education, 444.
 experts, 227.
 graduates 1878, 358.
 Medullary sarcoma, 146.
 Meningeal hemorrhage, 569.
 Meningitis, tubercular, 66.
 Menstruation causing paraplegia, 178.
 Mercury, elimination of, 59, 157.
 Metallotherapy, 327.
 Metrorrhagia, treatment of, 156.
 Michel on Diseases of Nasal Cavities, review of, 262.
 Microphone in medicine, 471.
 Military tubercle, 427, 572.
 Milk, Esquimaux, 312.
 intravenous injection of, 479.
 nutritive value of, 432.
 skimmed, 190.
 suppressed secretion of, 275.
 tests for, 288.
 Milner, R. H., 31.
 Miners, nystagmus of, 108.
 Morphia, 22, 277.
 and atropia, antagonism of, 180, 271, 410.
 and chloroform narcosis, 311, 519.
 in parturition, 44.
 Muir's Chemistry, review of, 574.
 Mumps, 32.
 Murray, J. M., 364, 388.
 Muscles, dislocation of, 551.
 Muscular excretion as cause of heart disease, 430.
 Mushroom-poisoning, 130.
 Myelitis, 11.
 acute, 612.
 Nancrede, Charles B., 76.
 Napellina, 339, 364, 388.
 Nares, worm in, 527.
 Naso-pharyngeal space, adenoid tumor of, 563.
 Neale, Medical Digest, review of, 308.
 Neill, Hollingsworth, 124.
 Nerve-stretching, 551.
 Nerve-trunks, effect of pressure on, 457.
 Neuralgia, 219.
 New-born infant, sign of immaturity, 179.
 New-born infants, infection of, 131.
 Nose, reunion of, 43.
 Nystagmus, 108.
 Obscene literature, 131.
 Obstetric forceps, 67.
 Obstetrical Society, 349.
 Obturator artery, surgical anatomy of, 93.
 Œsophagus, cancer of, 261.
 localized disease of, 1.
 stricture of, 373.
 Old men, micturition in, 94.
 Omentum, hydatids of, 609.
 Operating-chair, Bigelow's, 566.
 Opium, 416, 551.
 habit, 600.
 poisoning, 271, 410, 577.
 Orchitis, 263.
 Orth's Pathological Diagnosis, review of, 165.
 Os calcis, necrosis of, 562.
 Ott, Isaac, 100, 201, 409.
 Ott on Action of Medicines, review, 189.
 Ovariectomy, 126, 190, 414.
 Oxide of zinc, 157, 581.
 Oxyuris, 301.
 Ozæna, 11, 407.
 Pancreas, 191, 206.

- Pancreas as a remedy, 284.
 Paracentesis thoracis, 211, 220, 381.
 Paracotoin, 613.
 Parietal bone, fracture of, 535.
 Parker, W. K., on Skull, review, 116.
 Parotid tumor, 235.
 Pelletierine, 537.
 Pemphigus vaginæ, 562.
 Penis, cancer of, 19.
 Pennsylvania superstition, 105.
 Pepper, William, 97, 170, 193.
 Percy, Samuel R., 54.
 Perforation in typhoid fever, 232.
 Perineum, laceration of, 368.
 Peritonitis, diaphragmatic pleurisy in, 109.
 Pernicious anæmia, 10.
 Pessary, 309.
 Pharyngeal fistula, 131.
 Pharyngitis, 560.
 Phosphide of zinc, 96, 130.
 Phosphorus compounds, 44.
 Photography, 455.
 Phthisis, 129, 158.
 subcutaneous injections in, 142.
 Piffard and Fox, On Skin Diseases, review of, 141.
 Pilocarpine, 85, 311, 538.
 Pityriasis, 24, 71.
 Plaster bandage, 149.
 Pleura, cancer of, 572.
 Pleuritic effusion, diagnosis of, 285.
 Pleuritis, 505.
 Pleuro-pneumonia of cattle, 473.
 Pneumonia, 235, 258, 404, 427, 428, 598.
 tubercular, 611.
 Podophyllin, 178.
 Poke-root poisoning, 12.
 Polk, C. G., 54.
 Polypus of right auricle, 160.
 Polyuria, 374, 375.
 Pomegranate rind, 537.
 Post-mortem table, 567.
 Post-partum hemorrhage, 322.
 Potassium, bromide, 32.
 chlorate, 32.
 iodide, 32, 158.
 Pregnancy, albuminuria in, 274.
 extra-uterine, 197.
 vomiting of, 157, 437, 470.
 Pring, E. J., 273.
 Prolapsus of rectum, simple method of reducing, 622.
 Propylamine, 563.
 Prostate, enlarged, 33.
 Prostatorrhœa, 601.
 Pruritus vulvæ, 108.
 Psoriasis, treatment of, 46.
 universalis, treatment of, 585.
 Psychrophor, 117.
 Puerperal eclampsia, 544.
 fever, prevention of, 622.
 Pulmonary artery, thrombosis of, 449.
 Pulmonary complications of acute cardiac diseases, 14, 214.
 Quinetum, 382.
 Quinia, action on nervous system, 157.
 Quinine, 383, 412.
 exanthem, 20.
 in chronic irritation of the bladder, 623.
 Radcliffe's Proteus, review of, 334.
 Radial artery, wounds of, 46.
 Rain-tree, 431.
 Ranula, 400.
 Rape, charge of a doctor during anæsthesia, 137.
 Rashes, medicinal, 48.
 Ray, Isaac, 335.
 Rectum, cancer of, 297.
 excision of, 256, 297.
 prolapse of, 158, 584.
 Reed, B. Thomas, 104.
 Reiter, M. C., 145.
 Refracture, 223.
 Respiration, 112.
 Respiratory centres, 366.
 Retention of urine, 33.
 Retinal irritation, 529.
 Retrocostal abscess, 470.
 Retropharyngeal abscess, 226.
 Rheumatism, 361.
 cerebral, 253.
 treatment of, 9, 44.
 Rheumatoid arthritis, 265.
 Rhubarb, 280.
 Ribs, resection of, 470.
 Risley, S. D., 529.
 Roberts, John B., 513.
 Roosa on Diseases of the Ear, review of, 621.
 Royal Society, 358.
 Rudinger, Osseous Anatomy of Ear, review of, 334.
 Russian epidemics, 288.
 Salicylic acid, 156, 178, 206, 311, 374, 406, 615.
 death from, 58.
 in rheumatism, 141, 249.
 Salines, action on bile, 44.
 Saliva, 285.
 Santonin-poisoning, 205.
 Sayre's plagiarisms, 47.
 Spinal Diseases, review of, 261.
 Scalp, fatty tumor of, 414.
 Scarlet fever, 311.
 treated by salicylic acid, 406.
 Schweigger's Ophthalmology, review of, 598.
 Sciatica, 551.
 Sewer air, 430.
 Sexes, coeducation of, 207.
 Sexual excitability, 96.
 Shafner, Charles, 176.
 Shingles, 528.
 Shoulders-dislocations, 45, 563.
 Sinkler, Wharton, 150, 607.
 Skillern, P. G., 606.
 Skin, epithelioma of, 375.
 parasites, 426.
 Skull, depressed fracture of, 335.
 Sleep, cause of, 10.
 Smallpox in pregnancy, 390.
 Smith, Francis Gurney, 383.
 Smith, Robert M., 457.
 Smokers' gastralgia, 285.
 Sodium bicarbonate in burns, 13, 273.
 Souwers, George F., 345.
 Specimens, anatomical, to prepare, 120.
 Spermaic fluid as a vehicle of syphilis, 399.
 Spermatorrhœa, 117, 601.
 Spina bifida, 189, 190.
 Spinal anæmia, 604.
 Spinal cord, 100, 131, 303.
 Spleen, functions of, 12.
 luxation of, 299.
 Starvation for rheumatism, 44.
 Stewart, William, 316.
 Stimson's Surgery, review of, 477.
 Stomach, cancer of, 139.
 pump, 373.
 sloughing of, 299.
 Strabismus, 516.
 Streeter, H. W., 297.
 Struma and syphilis, 479.
 Strychnia in bronchitis, 181.
 poisoning, 6.
 Strychnos pseudoquinia, 298.
 Subacetate of lead glycerole, 509.
 Subject catalogue, 349.
 Submaxillary gland, tumor of, 91.
 Suesseroth, J. L., 220.
 Sulphurous mineral waters, 49, 600.
 Sweating, 205.
 Sydenham Society's Atlas of Pathology, 356.
 Syphilis, 169, 225, 519, 533, 582, 600.
 Syphilitic inoculation, 124, 213, 274, 399.
 nervous diseases, 121.
 Tape-worm, 120.
 Teeth, action of various substances on, 560.
 amaurosis caused by disease of, 561.
 Telephonic auscultation, 431.
 Temperance Association, British Medical, 472.
 Temperatures, influence of spinal cord on, 131.
 Testicle, acute gangrene of, 323.
 Testicles, atrophy of, 32.
 enchondroma of, 201.
 sarcocele of, 476.
 Tetanus, 8, 86, 192, 298, 368.
 Thermo-cautery, 24.
 Thomson, William H., 385.
 Thudichum on Urine, review of, 43.
 Thymol, 432, 520.
 Tibia, compound fracture of, 200.
 Tinned fruits, dangers in the use of, 624.
 Tinnitus aurium, 347.
 Tobacco as cause of typhoid fever, 180.
 Toner, Address before Rocky Mountain Association, review of, 309.
 Tongue, operations on, 584.
 parasite of, 86.
 tubercular ulcer of, 23.
 Trachea, sizes of, 527.
 Tracheotomy, 22, 76, 106, 212, 286, 418, 558.
 Trephining, 535.
 Trichina, 568.
 in geese, 336.
 Triturations, 112.
 Trommer's test, 28.
 Tubercular meningitis, 538.
 Turkey, medicine in, 35.
 Turkish medical service, 60.
 Turner, William Mason, 72.
 Twins, locked, 29.
 Tympanum, foreign body in, 524.
 Typhoid fever, 180, 193, 232, 239, 344, 433.
 Typho-malarial fever, 433.
 Tyson, James, 217.
 Tyson, James L., 581.
 Ulcera klysmatica, 538.
 Ulnar artery, wounds of, 46.
 Universities, German, 191.
 University of Pennsylvania, 302.
 Ureter, probing of, 238.
 Urethra, dilatation of, 238, 525.
 dilatation of, by urine, 238.
 Urethral neuroses, 347.
 Urethrotomy, internal, 212.
 Urinary secretion and spermatic plexus, 214.
 Utricularia as a symptom, 86.
 Uterine cancer, treatment of, 45.
 hemorrhage, 96.
 tumors, 91, 174, 187, 354, 585.
 Uterus, cancer of, 572.
 displacement of, 297.
 rupture of, 431.
 Vaginal examination, death from, 585.
 Valerianate of zinc formula, 400.
 Van Harlingen, A., 509.
 Venous pulse, 142.
 Vertebra, ankylosis of, 305.
 dislocation of, 304.
 fracture of, 303.
 Vestibule, laceration of, 30.
 Voudooism, 539.
 Walker, J. T., 580.
 Walsh, J. F., 582.
 Wanga plant, 539.
 Weaver, W. G., 149.
 Weber, R., 198, 411, 462.
 Welch, W. M., 390.
 Wheeler's Chemistry, review of, 574.
 White swelling, 469.
 Whooping-cough, 407.
 Wilks, Samuel, Diseases of Nervous System, review of, 599.
 Wilson, William I., 410.
 Wood, H. C., 25.
 Woodman and Tidy, Forensic Medicine, review of, 20.
 Worms, intestinal, 31, 442.
 Wright, J. J. B., 456.
 Writer's cramp, 310.
 Xanthium spinosum, 108.
 Yandell, L. P., 264.
 Yellow fever, 107, 552.
 Yellow oxide of mercury, ointment of, 580.



